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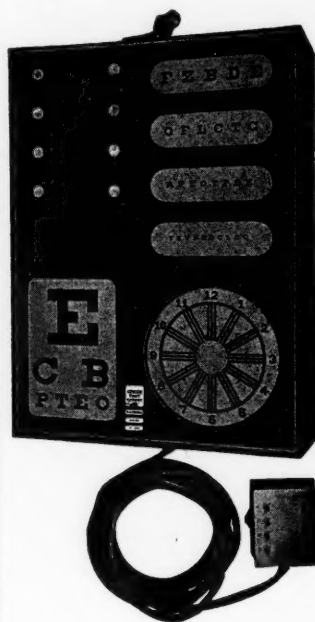
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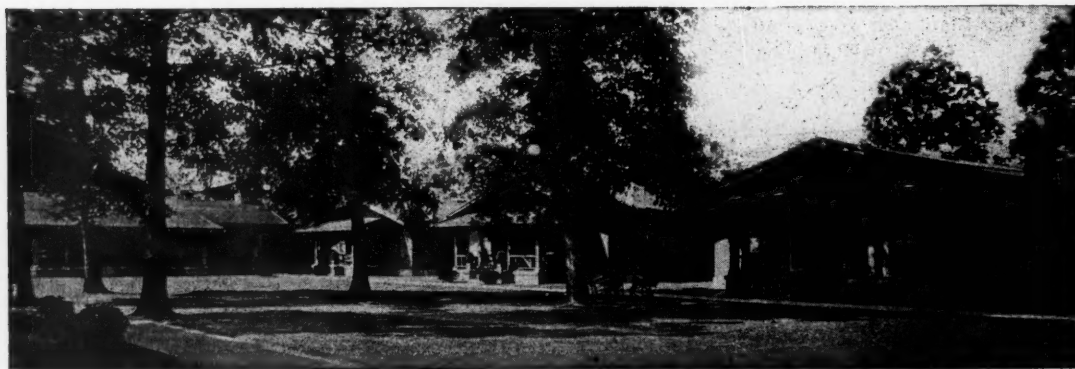
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Vol. XXII

GRAND RAPIDS, MICHIGAN, DECEMBER, 1923

No. 12

Original Articles

A METHOD OF SHORTENING THE CECUM*

ANGUS McLEAN, M. D.
DETROIT, MICH.

The cecum is the commencement of the large intestine, and is the blind pouch situated below the ilio colic valve, and communicates directly with the ascending colon. Its size is variously estimated by different authors, and it is said to be two and one-half inches in length and three inches in breadth. A large cecum may be four inches in width and about the same in length.

Our anatomists give four different positions, the most common of which is resting upon the ilio-psoas muscle, and behind the right abdominal wall. Robison describes four positions for the cecum: (1) on the psoas muscle; (2) to the right of the psoas muscle; (3) in the pelvis; (4) a potential position in which it lies free in the abdominal cavity, stating that it is found twice as often in the pelvis in the female as in the male, and that in 20 per cent of the cases it is found in the pelvis, and that its excessive mobility is due to stretched fixation apparatus.

Robinson describes the fixation apparatus or rather those tissues which hold the cecum and ascending colon in position as the following: The phreno-colic ligament being attached both to the hepato-duodenal ligament and also to the hepato-renal ligament, the peritoneum and the posterior areolar tissue. In some few cases the peritoneum almost completely surrounds the bowel, and in the great majority of cases it covers the anterior and lateral walls. Externally it is reflected on the peritoneal wall and internally becomes a portion of the meso-colon. None of these are fixed tissues, none of them are really ligaments or firm tissue. They are all subject to stretching or elongation.

It is not alone the cecum that becomes loosened from its attachment, it is more frequently the ascending colon, and the hepatic flexure,

for the natural length of the cecum is from two and one-half inches and three inches but we frequently find it from four inches to five inches over its natural position, the ascending colon gliding down with it.

Kean, in his work on surgery, speaks of the frequency of the cecum being found in inguinal and femoral hernia or so-called "gliding hernia." This is due to the relaxation of the peritoneum and of the posterior accolar tissue. We have different degrees of this elongation the one point of measurement is what might be said to be an elongated cecum is one when the lower abdomen is open that it can be picked up and the lower portion of the cecum will come out of the opening and reach to the lower margin of the pubic arch. Sometimes the appendix and cecum may be palpated per vaginam, the appendix and cecum lying in the cul-de-sac. These are seen in many radiograms following the introduction of the barium mixture. Patients who have a so placed cecum usually complain of an extra amount of gas, uncomfortable feeling and sometimes pain. These symptoms in the female are often attributed to disturbances of the uterine adexia, and accompanying it there may be chronic appendicitis.

This condition often accompanies so-called stasis of the colon, and was frequently associated with those types of cases where the colon was removed somewhat frequently a few years ago for stasis and ptosis. I do not recommend an abdominal operation for this condition alone, but when the abdomen is open and this condition of the cecum is present, or when an operation is advised for the removal of the appendix and the long cecum is present, I advise the following procedure:

TECHNIC

The muscular tissue of the cecum is composed mostly of its circular and longitudinal fibers. The longitudinal fibers do not surround the intestine but are given off in three bands, these bands commencing from the lower end of the cecum or at the base of the appendix, running upwards in the wall of the ascending colon, and spoken of in the anatomies as the tenia-coli and are covered by peritoneum. The

*Read before Section on Surgery, M. S. M. S., Annual Meeting, Grand Rapids, Sept., 1923.

circular fibers pass around in the opposite direction and are not as tense as the longitudinal fibers allowing for a bulging or a saculation of the intestine between the *tenia coli*, and our anatomists tell us that the longitudinal fibers are from one-fifth to one-sixth shorter than the circular fibers are in a longitudinal manner.

When the normal cecum is empty it usually lies above the pelvic brim covered by small intestine. When the elongated cecum reaching down to the bottom of the pelvis is partially filled it may be pressed upon by the small intestine producing there a stasis of the intestinal contents.

To relieve this, and to pull the cecum well up towards its normal position the following steps were followed: Where the cecum has been elongated there appears to be an increased development in the fibers of these longitudinal bands, sometimes they stand out quite prominently and are thickened, the central band of its anterior surface is more important than the others. This is not only thickened over the caecal portion of the intestine, but is thickened up over the ascending colon, the lateral bands being somewhat similar but not so pronounced.

A few years ago we thought that this condition might be improved by shortening up these bands by the use of linen or silk sutures, or a material that would not absorb in a short time. The ascending colon was pulled downwards and the highest discernable portion of these bands were brought into the opening. A small intestinal needle was passed transversely through these longitudinal fibers trying to avoid the picking up its mucous coat. A continuous stitch of three bites was taken in the band. These bites being about one-third inch apart, and the suture was then tied puckering up this portion. At about one-fourth inch from the former stitch a second would be begun, and the same method followed as the first. Three or four of these would be placed in each band, usually more being placed in the central band than in the lateral. Similar stitches were taken in the peritoneum along the margin of the *mesa-colon*, puckering up the peritoneum, and similar stitches were taken on the peritoneum on the outer sides of the ascending colon and cecum.

These stitches act as an irritant and in a short time an exudate is thrown out and later adhesions are formed and the stitches become encysted, forming a permanent shortening of the longitudinal fibers and the folds of the peritoneum. I have seen a few cases where the abdomen had been opened a year or two later and the stitches were still in position and well encysted and had caused very little com-

plaint following the operation. For a few days following operation patients complain somewhat of tenderness and complain of gaseous distention. This passes away in a few days or a week and we have no further complaint.

A large percentage of patients who have had this simple method of shortening the cecum done have been relieved partially of their symptoms and improved.

Where patients have chronic appendicitis with an elongated cecum and no attempt is made to elevate the cecum on to the pelvic brim they then retain their old symptoms and are very little improved. This shortening method can be done through the midline incision, through an incision along the outer border of the rectus or through the gridiron incision. Where the appendix is retro-caecal they rarely have a ptosis.

As we before mentioned, only about 20 per cent of patients have the condition that we referred to but a few patients with a tenderness on pressure over McBurney's point have ptosis of the cecum. We do not recommend this as a separate operation, but where the condition we have described is found upon opening the lower abdomen we recommend that this method be tried.

After trying this on more than 300 different cases we are well pleased with the results, and many of the patients appreciate their improvement.

DISCUSSION

DR. MAX BALLIN, Detroit, Mich.: I have no personal experience with Dr. McLean's method and so can give only a general criticism of my impressions. I believe now doctors are very little disposed to fix organs in the abdomen. We had a long period in which every one of us fixed kidneys, colons, stomachs, but if you look over the records in the hospital now very little of it is done. If this idea came from any one else but Dr. McLean I would not pay any attention to it, but Dr. McLean is a practical man and is not given to fanciful things and things that are not recognized generally. Therefore, since Doctor tells us that many of the elongated cecums can be overcome by this simple method, we should certainly pay attention to it. I have personally no doubt that stasis in the colon and in the cecum gives a lot of trouble, pain, absorption of toxic products, etc., and that these symptoms are the consequences of the stasis. Lane's ideas have not been followed by many, still there was some purpose in them. We have many cases of toxemia that have been improved by simple enterostomy to overcome the condition or an ileosigmoidostomy. Dr. McLean's method sounds reasonable. I wish he would tell us about the insertion of the ileum in these cases; if that has been shown to bear a relation to the symptoms. I have full confidence in this particular method of Dr. McLean's. It is simple and perhaps by it we will be able to prevent some of the complaints that come after removal of the appendix.

DR. W. R. CLINTON, Detroit, Mich.: I have had some occasion to observe many of these cases on which Dr. McLean has operated and I was surprised at the number that were relieved of the so-called

symptoms of chronic appendicitis by the removal of the appendix and the plication of the cecum. They have had no untoward results and I believe the patients are benefited by that procedure.

DR. ANGUS McLEAN, Detroit, Mich., (closing): I agree with Dr. Ballin about the fixation of any viscus in the abdominal cavity. This is merely a puckering of the wall of the intestine on itself. I did forget to speak about the fixation of the ileocecal valve. We do not put any sutures below it. We are particular not to get any sutures around the valve because it would be very easy to make a little angle there and to impair the function of the valve. I will again repeat that I would not make an abdominal opening for this alone, but where the abdomen has been opened, or where you have removed the appendix, and still have bowel pathology, then I would do the operation. We all know we have taken out the appendix and the patient still had symptoms. As Dr. Clinton said, these patients are very much better after this operation. He has seen a great many of them. It is nothing particularly new. It is easily tried. Be careful not to pucker up the ileum or the ileocecal valve. I would not put any stitches around the valve or where the ileum enters. I think if you will try it you will find it very satisfactory and very beneficial. It is a very simple matter.

ENDOCERVICITIS*

A. E. CATHERWOOD, M. D.
DETROIT, MICH.

No part of the female generative tract has received more attention, medically and surgically, in recent years than the cervix uteri. Many articles have been written and almost as many lines of treatment have been advocated. Fully 85 per cent of women have an endocervicitis at some time in their lives. Fully 75 per cent of these cases consulting a physician, are gonorrheal in type. Ninety-five per cent of all chronic gonorrheal infections are located in the cervix. Endocervicitis is an inflammation of the lining membrane of the cervix. It may be primary or secondary. It is primary when the infecting organism invades the endo-cervix directly, and secondary, when it is an extension from the uterus or the vagina. It may be acute or chronic. The acute primary type is very rarely observed. The acute secondary type is only occasionally seen for, by the time the patient consults the doctor, the process has become subacute or chronic. The exceptions to this are the comparatively few acute gonorrheal types or puerperal types involving the whole lower genital tract.

ETIOLOGY

The organisms which are involved in endocervicitis in the order of their frequency are: gonococcus, staphylococcus, streptococcus, and colon bacillus. Predisposing factors to endocervicitis are:

1. Marked susceptibility or lack of resistance on the part of the columnar epithelium of the endo-cervical mucosa.

2. Trauma, bruising and tearing of the cervix in labor leaves a fertile field for the ever present organisms to multiply upon and invade these delicate structures. Overzealous and improper instrumentation, such as rapid dilatation, curettage, and wearing of stem pessaries likewise produces a predisposition to infection.

3. Protracted diarrhoeas of childhood, scarlet fever and other debilitating diseases are frequently forerunners of this condition. According to Hess, the vulvo-vaginitis of infants must be regarded as involving the cervix rather than the vagina.

PATHOLOGY

In the acute stages of the invasion, the columnar epithelium of the cervical mucosa becomes swollen and oedematous. Then there is a round cell infiltration around the basement membrane and in the interglandular spaces. There is an increase in the secretion of mucous from the cervical glands with rolling of the epithelium in folds due to the swelling. On the portio vaginalis the squamous epithelium becomes infiltrated, macerated, and necrosis of the surface layers takes place. The papillary layer is densely infiltrated with round cells. There is an increase in the size of the cervical glands and these push themselves deeper into the cervical structure and, growing downward from within the canal, approach the denuded area from below. This is the stage of true erosion, consisting of superficial ulceration, granulation and gland invasion. This stage is of short duration and is rarely seen or recognized. In the process of healing the columnar epithelium of the canal is produced very rapidly and extends out over the portio vaginalis partially or completely covering the denuded area. If the surface remains smooth and the glands few in number and not dilated, the eversion is simple. If the glands are numerous and dilated, lined by high narrow epithelium and containing goblet cells, the surface assumes a papillary appearance and is called a follicular or papillary erosion or eversion. As the healing goes on, the squamous epithelium, regenerating slowly, grows in from the edges or regenerates from the islands still remaining underneath the columnar epithelium and displaces the columnar type. The squamous epithelium enters the necks of the glands at times filling the entire gland with a squamous plug and at other times only plugging the duct and causing retention cysts or the cysts of Naboth. The process may remain superficial, but frequently extends deeper into the cervix. In this case, there is a round cell infiltration below the base of the cervical glands projecting into the muscle and

*Read at Annual Meeting, M. S. M. S., Grand Rapids, Sept., 1923.

there may even be small, multiple abscess formation deep in the muscular layer of the cervix. The infiltration then spreads through the lymph channels causing an ascending lymphangitis, into the broad ligaments along the course of the uterine arteries or into the uterosacral ligaments and is especially prone to ascend by the lymph channels surrounding the muscular fibers, going upward into the musculature of the uterus. This in turn causes a tissue reaction, round cell infiltration, deposits of an increased amount of connective tissue, causing circulatory stasis and impeding the normal rhythmic contractions of the uterine muscle and interfering with normal lymph drainage. The process extends also by the same means into the upper portion of the broad ligament, around the tubes and ovaries, causing parametritis, perisalpingitis and periovaritis, which is often demonstrable during abdominal section.

SYMPTOMS

1. Leukorrhea, purulent, muco-purulent, or mucoid in character, more profuse just before and after menstruation.
2. Backache and dyspareunia, due to uterosacral cellulitis. Also painful bowel movements.
4. Sterility, often caused by inability of spermatozoon to navigate successfully the cervical canal due to the viscosity of the secretion and the presence of pus cells.
5. Menorrhagia, due to ascending lymphangitis resulting in chronic metritis and resulting in chronic metritis and circulatory stasis.
6. Asthenia due to the constant absorption of toxic products.

OBJECTIVE SYMPTOMS

1. Cervical discharge, mucoid, purulent, or muco-purulent in character.
2. Enlarged, tender, reddened, lacerated cervixes.
3. Uterus tender on bimanual palpation. Any attempt at cervical movement causes considerable pain.
4. Tenderness in the broad ligaments, tubes and ovaries, without palpable thickening or enlargement.

TREATMENT

In the acute type, which is usually gonorrheal, the treatment consists of rest, preferably in bed, postural drainage, frequent alkaline and mildly antiseptic hot douches, such as borax or sodium bicarbonate solution, under low pressure, to dissolve and wash away the discharge. Gentleness must be the keynote in the treatment of the acute stage.

In the puerperal type, in which the endocervicitis is only a part of the endometrial infection, any direct local treatment is contra-indi-

cated on account of the patency of the internal os.

In the sub-acute and chronic types, a clear mental picture of the pathology is of great importance and the usual office treatments, consisting of pure phenol, iodine, zinc sulphate, strong silver nitrate applications, do a great deal of harm and should be avoided. Simple non-infected or fresh superficially infected eversion or erosions will usually clear up with involution and consequent correction of circulatory disturbances. (If there is a retroposed uterus, this should be corrected and retained by proper fitting pessary.) At times, the stimulating effect of a few applications of tincture of iodine will speed up the process. If there is only superficial infection, the treatment suggested by Gelhom and Curtis frequently gives very good results. This treatment consists of a hot alkaline douche to cleanse the vagina and cervix. The cervical canal and area of eversion are then cleansed of mucous by the application of a paste of peroxide and sodium bicarbonate. This is then removed and hot Fuller's earth is packed about the cervix and held in position with large vaginal gauze tampon. This tampon is removed in twenty-four hours and the patient then takes a hot alkaline douche. This treatment is repeated at forty-eight hour intervals. Frequently the actual cautery applied to superficially infected eversion will allow a more rapid covering by the squamous epithelium. The linear cauterization method advocated by Hunner and Russel, if used in cases with moderate degree of cervical laceration and eversion without deep infection, frequently gives good results and can be done in the office. This method consists in cleansing the cervix and area of eversion with peroxide and sodium bicarbonate paste. The point of a cold cautery knife is then inserted to just above the area of eversion. Then the current is turned on and incision made about one-eighth inch into the cervical tissue for the full length of the area of eversion. The cervix is then painted with iodine and the patient instructed to return in two weeks, when the same procedure is used on the opposite lip of the cervix. Usually four such treatments will suffice. The objection to this method is that in the process of healing there is a slough and new infection may take place, or, the openings of the cervical glands may be destroyed without destruction of the gland itself, which may go on to infected cystic formation. Radium is now being used in some of the clinics with apparently good results. Twenty-five mg. of radium properly screened is being used, the same being inserted into the cervical canal and retained for six to eight hours. From preliminary reports, this is apparently giving very

good results, but sufficient experience has not been had with this method to draw definite conclusions. It deserves further trial.

OPERATIVE TREATMENT

Operative treatment should always be preceded by a thorough trial of the non-operative procedures, including hot douches, tissue depletion with boro-glycerin packs, multiple puncture and destruction of retention cysts. This will often make operative procedures unnecessary, frequently making possible the application of trachelorrhaphy, and in those remaining cases in which operative procedure is essential healing will take place more readily. In cases with cervical hypertrophy, both infra and supravaginal, and extensive or multiple lacerations with deep cervical infection and cyst formation, some type of operative procedure is necessary for the eradication of pathological tissue. Amputation gives the best anatomical result and eradicates the pathology. Unfortunately, the physiological result is not so good, as it frequently predisposes to abortion in subsequent pregnancies and dystocia in subsequent labors. Therefore, it is to be avoided wherever possible during the childbearing period. The best procedure during the childbearing period is the operation of tracheloplasty as developed and advocated by Sturmdorf. We have followed this technique with slight variation in the gynecological clinic at Harper Hospital for the past two years with very satisfactory results. This procedure is as follows:

With the patient properly anesthetized in the lithotomy position with vagina and cervix surgically prepared, cervix is grasped by insertion of Newton tenaculum in the cervical canal. A circular incision is made on the portio vaginalis just beyond the area of ectropion or eversion through the mucous membrane. The mucous membrane is then pushed back, or dissected free from the cervix for about one c. m. anteriorly and posteriorly and one-half c. m. laterally. The cervix being held by tenaculum, a cone is now removed, by knife or sharp Emmet scissors, including the canal and glandular structures surrounding the canal, the base of the cone being at the external os and the apex of the cone just below or at the internal os. Great care should be exercised in removing this cone that the infected glands shall be entirely removed with the least possible interference with the muscular portion of the cervix. If the muscular portion is much disturbed, the operation then becomes an amputation. Just before the excision of this cone, two sutures of number three chromic catgut are inserted at the lateral angle of the cervix and perforating almost to cervical canal at internal os. Then the apex of the cone is cut

across. Next, the inverting sutures of Sturmdorf, in which we use number three chromic catgut where he uses silk worm sutures, are placed so that tips of anterior and posterior vaginal cuffs are brought into apposition with the new canal and held in place at the internal os. These sutures, together with the lateral sutures, are then tied and control any bleeding. Two more sutures are now placed between the central and lateral sutures merely to make better apposition in the new canal. This operation has been used over a sufficient period of time to clearly demonstrate its superiority over amputation. In properly selected cases, it removes the pathology, curing the utero-sacral cellulitis, cleaning out the infected glands, thereby relieving the patient of the leukorrhea, and interferes very little or none at all with subsequent pregnancies and labors. If the cases are properly selected and there is not much tissue hyperplasia and hypertrophy of the lips of the cervix with deep infection, this operation carefully performed will give very satisfactory results and, if the process is too extensive, this operation should not be done, but high amputation performed.

CERVICAL LACERATIONS WITH RESULTING ECTROPION AND EROSION. PREVENTION AND TREATMENT

H. H. CUMMINGS, M. D.
ANN ARBOR, MICH.

One of the most common gynecological lesions seen daily by physicians in their office and hospital practice is laceration of the cervix. One is often surprised to find on postpartum examination of women who have had perfectly normal deliveries, large or small, single or multiple tears of the cervix. In dry labors and precipitate labors the frequency of these lesions is increased, while in operative deliveries from below, especially before the cervix is completely dilated, lacerations are the rule rather than the exception. The so-called manual dilatation of the cervix is usually a manual tearing of the cervix.

Following lacerations of the cervix normal cervical epithelium rolls out of the cervical canal, filling in the defects. This eversion is brought about by gradual traction due to prolapse, and by swelling and edema due to infections. The columnar epithelium of the cervical canal when everted and exposed to the trauma and acid secretion of the vagina, does not possess the qualities of the normal squamous epithelium covering the cervix. It desquamates, forms ulcers which become infected and in healing the squamous epithelium tends to grow over the ulcerated area. Microscopic examinations of these areas show both the columnar

and squamous epithelium; the latter growing over the columnar cells, occluding the ducts and at times actually plugging and replacing the glandular structures of the cervix. This peculiar intermixing of epithelial cells not only predisposes to malignancy in cervical tears, but causes the cervix to harbor infections in its glandular structures. Below the epithelial layers and between the glandular structures, the interstitial tissue is infiltrated with small round cells in the chronic cervical lacerations. This infiltration is not alone confined to the cervical tissues but extends back along the lymphatic drainage into the posterior parametrial tissues. This same condition has been demonstrated in the uterosacral ligaments and is the most rational explanation for the lumbosacral backache, so constantly associated with chronic cervical infections and lacerations. Realizing that cervical tears, when deep, will be followed by ectropion and erosion and later chronic endocervicitis; that a persistent purulent leucorrhea and chronic lumbosacral backache are usually prominent symptoms of this condition; and that malignancy is apt to develop in the damaged cervix; it becomes the duty of the physician to give more attention to cervical lacerations.

Prevention of cervical damage during labor is the ideal method of dealing with this problem, but as mentioned before, natural delivery often traumatizes the cervix. True, one is surprised, when upon examining a cervix four to six weeks after a delivery, to find how small lacerations have contracted; epithelium has covered the defects perfectly and there is no evidence of infection or ulceration. This is one of the best arguments against routine inspection and repair of the cervix immediately after delivery.

I am convinced that morphine, handled wisely, during dry labors and in occiput posterior positions, will allow a gradual, slow dilation of the cervix with little trauma.

Manual dilations of the cervix is a procedure which is being rapidly discarded by most obstetricians. A dilatable cervix is one that shows only a small rim of well thinned out tissue. This rim can be gently pushed back over the presenting part with very little trauma, but a cervix admitting two fingers or even half dilated when subjected to manual enlargement invariably tears. A condition that calls for a rapid opening of a cervix half dilated or less is better handled by incision of the anterior and posterior lips in the mid-line and immediate repair after delivery. Bags give a slow and even dilatation but only rarely is the dilatation sufficient to allow delivery. The method, recently suggested by Polak, of packing into the vagina sterile gauze or cotton moistened with sterile boroglyceride to thin out the cer-

vix and cause dilatation of the cervix in dry labors, is effective and prevents lacerations.

Most of the serious lacerations of the cervix are produced by unwise, or premature attempts at delivery before the cervix is dilated. With the various fads being presented to the medical profession and to the laity, incompetent men are trying procedures to shorten labor that are bound to reap a harvest of damaged mothers. No one has devised an improvement on the first stage of labor in normal cases. With an armamentarium of morphine, chloral, gas and oxygen, patience and judgment, the obstetrician is equipped with everything necessary to successfully conduct the first stage of labor in uncomplicated cases. What is done during the second and third stages is relatively of less importance.

Wholly in sympathy with all methods of relieving and lessening the suffering of parturition, I believe that a plea for more conservative methods of conducting labor is timely and will prevent many of the conditions under discussion.

TREATMENT

The procedures for treating cervical lacerations and the resulting ectropion, erosion and chronic endocervicitis, may be divided in two groups. First palliative treatment, as local applications to the diseased area, tampons and douches. This line of treatment offers but little curative value, but is useful in reducing the congestion and infection. The results are not lasting but beneficial while being carried on and are often useful prior to operative work. Second, operative treatment which offers the best results as to cure. For years two methods have been used to correct these cervical diseases. Trachelorrhaphy removes the scar tissue and that portion of the cervical mucosa that presented outside of the os. It does not reach the infected glands deeper in the canal and consequently rarely cures the troublesome leucorrheal discharge. If performed during the child bearing age subsequent deliveries may undo all that has been done.

Amputation of the cervix usually removes most of the infected, diseased cervix, but healing is often poor, leaving a scarred stump with some cervical mucosa rolling out. Labor is interfered with by the undilatable scar tissue. Until Sturmdorf gave us his operative technique, we had no entirely satisfactory operation for correcting endocervicitis. This procedure has been presented and will not be mentioned except to state that it overcomes all of the disadvantages of trachelorrhaphy and amputation of the cervix. It removes all of the infected glandular structures, gives a normal epithelial covering to the cervix; leaves a dilatable cervix in labor; cures the persistent

leucorrhea and leaves a normally functioning cervix.

The method which I wish to discuss would probably be classed as an operative procedure, though it is so simple that it hardly deserves to be called so. This method is a modification of Hunner and Russell's method of linear cauterization. Their technique is to expose the cervix, pass a cold cautery knife up into the canal above the point of erosion, then turning on the current to cauterize in a line, through the mucosa and underlying tissue to a depth of one-quarter of an inch on the anterior lip. One week later this same linear cauterization is done on the posterior lip and after the same interval to cauterize at each lateral aspect. When these burns heal the cervix contracts down correcting the eversion and, according to their claims, eliminating the infection.

Dickinson modified the Hunner method by making rather deep cuts with a cautery knife on the anterior and posterior cervical lips from the internal os to the outer margin of the erosion.

Polak uses a cautery and destroys all of the infected tissue of the erosion.

During the past two years I have treated 73 patients with cervical tears showing ectropion and erosion. The method used was carried out in the office and without any anesthetic. Using a large bivalve speculum the cervix is well exposed and tipped up into the axis of the canal. The cervix and canal are cleaned and dried. Using a loop of wire as a cautery tip, the current is turned on until the wire is bright red. Then about four short linear burns are made on the anterior lip, these lines are about an eighth of an inch apart and are carried about three-eighths of an inch into the mucosa and deeper tissues. They start well up in the canal and are one-quarter of an inch in length. The posterior lip is treated in a similar manner. The area is painted with one-half strength tincture of iodine and the patient requested to return in two weeks time, and to use saline douches during the interval. At the time of the second treatment the cervix will be found to have contracted, drawing into the canal the first linear cauterized area. A second series of short linear burns are made, one-eighth of an inch apart and about midway on the everted mucosa. These are carried all around the cervix. Two weeks later the third treatment is given and is identical with the second except the linear cauterizations are carried to the outer edge of the erosion.

Inspection a few weeks later will show a cervix approaching in appearance a nulliparous cervix, except where deep lacerations have existed. The leucorrheal discharge has practically ceased and the eroded area is covered

with mucosa in appearance like a normal squamous epithelial covering. Most of these patients are relieved of their lumbo-sacral backaches, except those patients with definite ilio-sacral disease.

This method brings about a cure in those cases with moderate tears and simple ectropion and erosion. It will not cure and cannot replace plastic operations on the cervix, where there are deep tears, marked hypertrophy with cystic degeneration, or prolapse with deep ulceration. It has these advantages; it can be done without incapacitating the patient, it is painless, there is no interference with subsequent pregnancies and confinement, leucorrhea and lumbosacral backs are cured, and infection in the cervix is reduced or eliminated.

DISCUSSIONS ON PAPERS OF DOCTORS CATHERWOOD AND CUMMINGS

DR. R. R. SMITH, Grand Rapids: I think these are very timely papers. I well remember that a number of years ago a great deal of attention was paid to the cervix, almost too much. Every disease a woman was heir to was likely to be described as due to a disease of the cervix and some of the methods spoken of today recall those of former years. For a good many years the cervix remained very much neglected. Even the out and out lacerations of the cervix were sometimes not repaired even when other gynecological operations were done. They were thought to be of much less importance than we think them now, but recently many gynecologists have been giving them proper attention.

I think the Sturmdorf operation is a valuable addition to our methods of treating the cervix, more especially those cases associated with a lot of discharge, and I think it is one of the things that has revived our interest in the cervix. Personally, I have met with a great deal of difficulty in doing the Sturmdorf operation. It is not easy to eradicate that little mucous membrane. The cases in which you really wish to use it are those in which there is much inflammation, with deep scar tissue, a cervicitis, that are often as hard as stone and you cannot eliminate the musoca in that way, so when you get through you have really done an amputation. However, it is a real addition and does oftentimes give good results. Whether you amputate or not it is of great value in doing away with the discharge which often cannot be relieved in any other way.

No one has spoken of the use of radium in these infections. You will remember the method described by Curtis, which we have been using for a year or more in some cases. Radium is inserted for about six hours, a mild dose, and at first no result is obtained, but after a while the radium causes atrophy of the mucous glands, the discharge diminishes and sometimes disappears. Rather interesting it is to know that the Neisserian germ frequently disappears from the early cases, even before the discharge itself is cured. I think that is an addition to the methods we have of treating the cervix.

I wish to say just one word about one thing—backache. One of the speakers, Dr. Cummings, spoke in a way which would lead one to think that backache was frequently caused by disease of the cervix with invasion of the sacroiliac ligaments. Personally, I think backache can very rarely be ascribed to any of the gynecological diseases. I think one of the most dangerous things one can do

is to promise relief from backache from the treatment of any gynecological condition. When it does result from this it is usually low down in the back and one can be more optimistic in those cases, but as a whole I think we may say that backache does not constitute one of the symptoms of pathological conditions in the pelvis. It is due to fatigue, bad posture sometimes and a combination of the two, sometimes to focal infections, but not often to gynecological lesions.

DR. J. E. DAVIS, Detroit: Gynecological work probably furnishes more surgical material than any other. I think one should, perhaps, to properly understand this subject, think of the position of the glands in the multiparous cervix. Originally a portion of them are placed in the axis, or the proximal portion is at an acute angle with the cervical canal. After gestation this position is changed and as congestion is continued and infection takes place there is every reason for difficult drainage to take place from the glands, so when the inflammatory condition is continued for some time it is very common to have an atresia of the distal portion of the glands. In the cervix I think one should remember that the glands are more or less to be considered as deciduous structures. If you examine the glands any time during the last ten years of the activity of this portion of the uterus you will observe that the glands are carried further down and tend to be extruded, seemingly toward the stratified epithelium with a movement that suggests extrusion of the glands. That is especially true, or is accentuated where there are lacerations, where the congestion has been carried for some time and infection has existed for some time. It is a most common picture in the material that one receives for pathological examination to see the endocervium dropped down and an ectropion produced, not with the picture Dr. Catherwood showed of the stratified epithelium carried upwards. That is the picture when substances are used which cauterize the canal. Then there is an atresia and that is what seals the elongated portion together, giving a certain degree of atresia, but ordinarily one does not see that.

Just a word about the operation Dr. Cummings has pictured. It seems to me that operation aims to do exactly what the Sturmdorf operation does, only it would seem that the effects could be made more permanent if the operation were carried further out so that you would take in essentially the same amount of tissue that you take in in the Sturmdorf operation. If that could be done, it seems to me, it would be almost a duplicate of the Sturmdorf.

Just a word about the Sturmdorf. In that operation I have noticed that if the dissection is carried up beyond the external os you have a number of premature labors or abortions. If you stop before you go so high with the cone you will not get this, and I see no use in carrying the cone so high. It is true you will remove more endocervium, but the part you remove up there is of no use; it is the elk-horn type of gland which causes the trouble—the long type of gland which shoots into the material and makes the retention cysts, which remain there a long time, is giving the trouble.

DR. A. E. CATHERWOOD, Detroit, (closing): Dr. Davis just spoke about the picture of the replacing of the columnar epithelium with the squamous epithelium. That picture was just put on to show the result of over-treatment after the eversion had healed entirely. It did not show the eversion at all, but the result of over-treatment or highly stimulating applications. If there had been eversion in that case it had entirely disappeared in the process of healing and was just exactly the opposite of what eversion should be.

I think the cauterization method of Dr. Cummings is something which can be used to great advantage. I do think there have been too many Sturmdorf operations on cases where they should not be done and I think this procedure will help to remove quite a number of these cases from the surgeon's hands and be a good thing.

DR. HOWARD H. CUMMINGS, Ann Arbor, (closing): I regret if I left the impression that backache in women is due to cervical conditions. I did not intend that, but just the reverse. That was the old idea. If we found a cervical tear we thought the backache was due to that. Fortunately, nowadays we think of many other things and sometimes miss the most important. Lumbo sacral disease, a very common cause of backache, should be diagnosed by means of X-ray examination. The neuroses give backache and we may have to call in help in their diagnosis. The spinal curvatures which sometimes bring poor posture are the cause of lumbar backache in many instances. Foci of infection are sometimes hard to run down and in this group come just the things I mentioned. Actual infection in the perimetrial tissues gives lumbar backache. I would not be so foolish as to assure a woman that because I did the Sturmdorf operation or cauterized her cervix that I would cure her backache. I might assure her that her leucorrhea would be less, that her danger of malignancy at the menopause would be less, but it is surprising to see how many women come in after these operations and tell us their backache is gone, so it is not unreasonable to assume that the infection in this place was causing the backache in those particular cases.

Dr. Davis mentioned the cauterization versus the Sturmdorf operation. I do not think they should replace each other. I think the Sturmdorf should be reserved for the bad cases, with marked prolapse, cystic formation and so on. I think these are the ones that give the best results with the Sturmdorf. The cases treated in the office formerly by local applications, by douches and by tampons might better be treated with this cauterization method because you will obtain results with a few treatments in a period of from four to six weeks.

RESUME AND GENERAL CONSIDERATION OF OSTEOMYELITIS OF HAEMOTOGENOUS ORIGIN*

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Osteomyelitis of haemotogenous origin, is that inflammatory disease of all the structures of bones, which is etiologically due, to an infection having been carried from some distant part to the affected bone by the blood stream. The symptoms of every disease are governed by the anatomy and physiology of the invaded structures, therefore I shall briefly review the structures and functions of bone tissue.

Bone is a specialized connective tissue covered by an enveloping closely adherent fibro elastic membrane—the periosteum. The periosteum for practical purposes, may be considered as having two layers, an external fibrous and an inner vascular layer. The inner layer has a very rich nerve supply, as well as

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osteoblasts, or bone forming cells. Next to the periosteum and attached to it by means of Sharpe's fibers is the external or compact layer of the bones. This external layer is very dense, and forms the bulk of the shaft of the long bones as well as the external layer of the extremities of these bones. In the irregular short and flat bones compact bone also forms the external layers, and its chief function is to give stability to the bone. It is mainly made up of a so-called concentric or Haversian system of lamellae, grouped around the Haversian canal. Between these layers are small irregular spaces lacunae, which connect with each other by means of canaliculi; some of these lacunae connect with the Haversian canals. The Haversian canals contain blood vessels and a nerve and are lined by endothelial cells. The lacunae contain osteoblasts.

Cancellous or spongy bone is less dense than the compact and is found to make up the bulk of the extremities of the long bones and the interior of the other bones; it consists of spiculae of bone communicating with each other which form a mesh-work for the red marrow (1). Cancellous bone has no Haversian systems.

The nerve supply of bone is through the periosteum and the nerves that accompany the nutrient arteries. Bone chemically is composed of about one-third organic and two-thirds inorganic matter. Compact bones contain more inorganic substance than the rest, and generally, bone may be defined as a specialized connective tissue, the meshes of which are more or less impregnated by inorganic salts that give it great stability, affording protection and making framework for our bodies.

Osteogenesis begins early in embryonic life and continues, sometimes, into the middle span. Embryologically, we recognize two modes of bone formation, intracartilagenous and intramembranous. The intracartilagenous is as found in the long bones, where in the center of the bone, the osteoblasts, and the osteoclasts begin early ossification, which runs toward the extremities, where also we find ossification centers, epiphyses. The epiphyses are joined to the shafts of the long bones by the epiphyseal cartilage which becomes fully ossified when bone growth stops. In some very interesting experiments Doctor Haas comes to the conclusion that bone removed from its centres of ossification and acting as a bone graft possesses active osteogenetic power independent of its host (2).

Blood supply is through the periosteum and nutrient arteries. The nutrient arteries pierce all the layers of the bone, and reach the medulla or marrow containing cavity where they give off branches to the extremities. On its way

to the medulla some branches are given off to the compact bone. The branches divide rapidly and empty into comparatively large venous spaces. The pereosteal blood supply is very rich and arborizes in the pereosteal layers. The blood in bones becomes quite static, this is a very important etiological factor in osteomyelitis. There is some communication between the pereosteal system and the nutrient systems of the blood supply.

The mode of infection in osteomyelitis is through the blood stream, foci of infection enter the bone and due to the almost static condition have a chance to grow. The direction of the infection is by nature thrown into the line of least resistance, which is in length. At the epiphyses the invading organism meets its first formidable barrier, due to the fact that the pereosteum dips down to the epiphyseal cartilage to which it is firmly attached. The epiphyseal cartilage separating the epiphysis proper from the shaft of the bone.

We, then, have a cavity containing free pus, which has no outlet. The blood vessels leading to the affected part of the bone become thrombosed with resulting necrosis and sequestrization.

The osteoclasts, or perhaps the pus, loosening the dead part of the bone as well as absorbing some calcium from the sequestrum, give a characteristic appearance in an X-ray plate. The surrounding healthy bone is stimulated to greater activity which results in a very dense and compact bone formation, the involucrum. Sometimes the infection may become circumscribed, no sequestrization occurring and a so-called sterile bone abscess formed. The treatment of a sterile and afebrile bone abscess is different from the treatment of bone supuration.

ETIOLOGY

The etiological factors are usually blood borne germs. They may be of various kinds. Streptococcus or staphylococcus, T. B., typhoid, (3) etc. The acute form is primarily a disease of the young; the chronic being found at any age, but usually history will lead back to early life. Males are more affected than females, lower extremities more frequent, femur and tibia running close to each other, though no bone is exempt. Chesky reported a case of primary osteomyelitis of the patella and reviewed the literature of 36 reported cases (4). Michelson (5) reported 1,008 consecutive cases of osteomyelitis with 16 of the ribs. Bearse Carl (6) reports two cases of osteomyelitis of the ilium. My series of 31 cases are as follows: 12 of the femur, nine of the tibia, four of the radius, three of the fibula, one of the ilium, one of the ribs, one of the humerus.

Injury plays some part in the etiology. Infected tonsils, bad teeth, or any other focus of infection may reach a bone that has become likely to be infected. The bones seem to have a predelection for metastatic diseases, as we all know the great incidence of metastases of cancer in bone tissue.

Early recognition depends upon fairly characteristic symptoms, in acute forms pain is the most important. The pain is very severe and in most of the cases localized with some tenderness over the whole bone or extremity. Tapping of the bone involved will produce a sharp pain in the involved area of the invaded bone. High temperature of 103 and 104, and severe toxemia may manifest themselves. The "W. B. C." usually rises to 25,000, "Polys" 80 to 90 per cent. The area over the infection becomes aedematous and angry looking; lowering of an affected limb will increase the pain and the adjacent joints may enlarge and fill up with fluid.

The subacute and chronic cases may manifest themselves by a more protracted course. The symptoms may abate entirely for a while and the disease become quiescent and then flare up again. The symptoms are then similar to the above described. Sometimes the pus will evacuate itself and form long standing sinuses. We must not expect a classical picture in all the cases. One should be suspicious of a moderate temperature associated with deep bone tenderness. The pain may not be very severe and yet produce a large sequestrum. Brodies abscess, a bony circumscribed abscess, may have very few distinct symptoms and be treated for years as rheumatism and growing pains.

The diagnosis may be confused with acute articular rheumatism, from which it is differentiated by the pain being outside of the joint; moving of the joint in acute articular rheumatism will produce intense pain in joint while in osteomyelitis, the pain is in the bone. Acute articular rheumatism attacks more than one joint, while osteomyelitis very rarely attacks more than one bone. Septic arthritis may simulate osteomyelitis and is sometimes very hard to differentiate; as a last resort, I would advise examining a drop of the fluid from the joint.

Infantile paralysis in the very early stage may be also confused with osteomyelitis. T. B. of bone is differentiated in that it usually attacks the epiphyseal cartilage and epiphysis first and its greater chronicity and its lower temperature curve. In Osteomyelitis the diaphyses is mostly attacked first. X-ray is useless in the acute stage except that it may show another condition existing. In chronic cases X-ray is invaluable especially in exact localiza-

tion of the sequestrum, greatly simplifying the operation.

Prognosis is grave if accompanied by foci in other organs, in uncomplicated cases the outlook is favorable, especially in early recognized and surgically treated cases. In chronic cases death seldom results directly from it though the focus is in constant danger of being carried to other parts of the body. The liver may undergo amyloid degeneration, due to a long suppurative process.

TREATMENT

Treatment varies with the stage in which it is recognized. It is comparatively of recent date that osteomyelitis received recognition as a rather frequent disease entity. It used to be treated as severe boil formation. The only rational treatment is incision and drainage. If seen very early simple incision of the periosteum and drainage may suffice, Starr (7) advises incision of the affected periosteum which strips easily, periosteum normally is very adherent. He then drains it, if no pus is encountered he advises drilling three or four holes toward the epiphysis and drainage will establish itself in 24 hours. He advises against opening medullary cavity. Ochsner and Crile (9) advise splitting the periosteum all the length of the affected area and about an inch above and below. He opens the medullary cavity.

In the acute case that came under care I split the periosteum, chisled through to the medullary cavity and drained it. When I encountered sequestrae I removed them. Ritter (8) states that in children the blood supply of the epiphysis and the nutrient arteries is different from the grown, in that they form practically two different end arteries and communicate but very little. He advocates very conservative treatment, and advises against opening of the medullary cavity. He, also, claims that necrosis is not caused by suppuration but vice versa.

There is a great deal of difference of opinion as to what should be done when necrosed bone is met with. Ochsner (9) advises against its removal in the young, as bone possesses great regenerative power. The general consensus of opinion is to drain all acute cases and to wait for a definite separation of the necrosed bone as well the involucrum formation. Then a thorough resection of area should be done. In the chronic cases resection should be done widely until healthy bone is encountered; remove sequestrae present and leave the bone in as flat contour as possible. Dry area thoroughly. I always fill the cavity with a muscle flap wherever possible, taking care that at least one end of the muscle is not disturbed from its natural blood supply. I drain for two to four days and cover the wound with thick

dressings saturated with alcohol and also apply external heat. I invariably immobilize the operated part but encourage light movements after the first week. In the acute as well as in the chronic cases great care must be taken to preserve the periosteum.

In my series of acute cases I had complete recovery in six weeks in nine out of twelve cases, the other three had to have a secondary operation. One was operated on by me two years subsequently and a sequestrum about two inches was removed from the lower one-third of the femur, the other two were operated on by another surgeon. The periosteum should be stitched over the defect and muscle and skin coaptated. The bleeding is controlled best by elevating the extremities. I use no packing. In the chronic afebrile circumscribed bone abscesses, one may drain the abscess cavity without any extensive resection. Out of 19 chronic cases that I treated 14 cases completely recovered in from three to six months; five cases had sinuses lasting up to three years. In all cases distant foci of infection have been treated.

There is one point I wish to bring out very strongly and that is the absolute condemnation of treating bone inflammation and bone necrosis by salves and poultices. One cannot cure osteomyelitis that way any more than one could cure appendicitis by the same measures. Surgery in the only rational treatment.

DeLagniere (10) advises the use of tibial grafts in extensive resections, though an infection is present; he thinks that the bone graft helps bone regeneration. The graft should contain the periosteum and endosteum. Muller (11) in some very interesting experiments proves the necessity of complete immobilization of the operated bone. He resected a segment of the radius and allowed the usual mechanical strain of the muscles of the forearm on the ulna and angulation of the ulna resulted.

It is very important when operating on the young that the epiphysis be dealt with very conservatively. If necessary incise the epiphysis with a sharp knife in a longitudinal direction. No curett should ever be used on epiphyseal cartilage. Prolonged immobilization with resulting atrophy of disuse does not seem to affect the regeneration on bone. Atrophied bone of disuse does not change in consistency of its chemical constituents. Weight bearing is diminished in atrophied bone in its proportion to the decreased circumference (13).

RECURRENCES

I think that, considering the difficulties we have to deal with in osteomyelitis the results obtained are good, recurrences when they do occur are mostly due to sequestra that have been overlooked at the time of the operation.

CASE REPORTS

Case No. 1.

Boy 9 years of age in January, 1915, had a sore throat, subsided in a couple of days; two weeks later had a severe toothache with abscess formation. Abscess lanced. In April, fell off bicycle. In June, noticed that he became tender in middle one third of right radius, but tenderness subsided; July 4th, went swimming and became chilled. Pain in right radius returned in very severe form.

Physical examination; well nourished, healthy boy. Tonsils enlarged; some bad teeth. Lungs and heart negative, abdomen negative. Right radial region very tender; elbow and wrist joints slightly tender and swollen. Right forearm red and angry looking. Only comfortable position when arm is greatly elevated. Temperature $103\frac{1}{2}$, pulse 130, blood count 32,000, Polys 72 per cent. Appearance very toxic. X-ray showed possible sequestrum formation at junction of middle and lower one-third of right radius. Operation July 16th, removal of sequestrum, profuse drainage. Wound closed in six and one-half weeks. Complete recovery.

Case No. 2.

Man 30 years of age, very muscular and healthy in appearance. Agricultural laborer all life. Usual diseases of childhood. Had smallpox. Has scar over right mastoid area which he explained as having had an abscess there about five years ago. Abscess opened spontaneously. In May, 1915, was beaten up very severely and laid in bed about week. I was consulted in September, 1915. He had severe pains in his right chest, not associated with breathing.

Physical examination. Head normal, eye reflexes normal, teeth in good condition, tonsils normal. Lungs and heart negative, seventh right rib very tender to touch, and skin over it swollen and infiltrated. Abdomen negative. Rectal fistula present. Had it about 15 years, for which he had no treatment. Temperature 101, pulse 110, blood count 18,600. Polys 76 per cent. Wassermann negative. X-ray showed rough periosteum of seventh and eighth ribs, no sequestra.

Diagnosis: Osteomyelitis of seventh and eighth ribs. Operation September 24, large abscess external to ribs affecting periosteum of seventh and eighth ribs, drainage instituted, wound healed in three and one-half weeks. Returned in December, 1915, complaining of recurrence of symptoms. X-ray revealed sequestrum in sixth rib. Reoperated on December 29, also operated rectal fistula. Chest wound healed in seven weeks, rectal fistula took five months to heal. This man has been doing hard labor since.

Case No. 3.

Girl 11 years of age, usual diseases of childhood. Had her tonsils removed about one year ago. In January, 1916, was taken with a severe pain in her right thigh, had chills and profuse sweating. A physician treated her for La Grippe for about one week. I saw her ten days after she had been ill. She looked very toxic, temperature of 104, pulse 142, lungs negative except slight roughened breathing on right side. Heart negative, urine albumin 3 plus. Casts and epithelial cells numerous. Abdomen negative, right thigh tender, X-ray of right femur showed a possible periostitis. The area of the lower one-third of the thigh was angry looking. Operation, had no pus until the periosteum was reached. Periosteum was split and a great deal of pus escaped, nothing else was attempted at the time. Patient improved rapidly and left hospital in three weeks, but six months later reported as having a sinus. Parents refused further treatment.

Case No. 4.

Boy 4 years of age. Measles and scarlet fever

when 2 years of age. Bronchial trouble now and then. In December, 1920, while playing, was kicked by another boy. Two weeks later boy became violently ill and parents noticed swelling at lower end of right leg. I was consulted the fourth of January, 1921, three weeks after boy took sick.

Physical examination: Head negative, teeth bad, tonsils bad, chest negative, abdomen negative, right leg swollen as well as ankle and knee joints. Fluctuating pus easily recognized over lower end of right Tibia. Temperature 104, pulse 138, respiration 40, X-ray findings negative. Pain was hard to localize. I operated him and found a large abscess above ankle joint and pus under the periosteum of the Tibia which stripped very easy. Discharging sinus remained for three months. Another X-ray revealed large dequstrum in lower end of Tibia, re-operated in May, 1921, when the sequestrum was removed wound healed in seven weeks.

Case No. 5.

A very interesting case was of a boy 11 years of age. In November, 1918, while he was going to school, he was taken with a severe pain in the lower right abdominal region, which subsided a little, but the next day returned in a very excruciating form. A physician was called, who diagnosed it as a severe attack of rheumatism. He was treated for several weeks without any improvement, after which he was taken to a city where, at first, a probable diagnosis of appendicitis was made. However, after several days of observation, the surgeon opened an abscess in the posterior upper one-third of the thigh. The boy felt better for a while and was taken home. After a couple of months he began to drain again and he would have paroxysms of pain associated with temperature. He came under my observation in May, 1920.

Physical examination: His head was normal, tonsils bad, several bad teeth, chest negative, abdomen negative, right hip bone tender, with spots in the bone very painful. A discharging sinus in posterior part of the right thigh. No shortening of the extremities. Temperature 103, pulse 136, respiration 132, urine negative, Wassermann negative, blood count 26,000, Polys 88 per cent. X-ray showed involvement of the crest of the ilium and a sequestrum in the body of the ilium. The boy was operated on, and pus was found in the visceral fossa of the ilium. Sequestrum removed and several holes drilled through the bone for drainage. He made a good recovery, wound healed in several weeks, with small sinus in the thigh, which took about three months longer to heal. Geist (12) reports three cases of osteomyelitis of the ilium. The condition seems to be very rare or few reports have been made of it.

CONCLUSIONS

1. Osteomyelitis of haemotogenous origin is either more frequently met with now, or more easily diagnosed due to greater precision of methods of diagnosis.

2. Acute osteolyelitis is essentially disease of young and aboloscent.

3. The disease is usually motastatic from a distant focus of infection and is carried by the blood stream.

4. The infection may spread by continuity as well.

5. The important symptoms, being excruciating pain in the bone at the seat of infection, high temperature and oedema. X-ray findings may be negative in acute cases, though

most important in sub-acute and chronic cases.

6. Early recognition is essential to successfully cope with the disease.

7. Treatment in acute cases should be early evacuation and drainage and in chronic and sub-acute cases wait for the sequestrum to form and then remove the same with proper consideration for future bone regeneration.

8. Distant foci of infection must be dealt with in attempting a permanent cure of this disease.

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DISCUSSION

DR. A. C. BLAKELEY, Flint, Mich.: The men who are doing surgery are running upon these cases of osteomyelitis very frequently. Some men run across a number, some only meet with a few. I think Dr. Bogart has had more cases than I have had and has arrived at more definite conclusions. I do not see so many, but of those I have, I feel, as Dr. Bogart does, "Do not rely on the X-ray." I simply make an incision down to the periosteum, take a little bone drill and drill it out. If you will do this you will stop the infection. I recall a case. I was called in to see a young man who was complaining of pain in the arm. I think we learn more from our mistakes than from the things that turn out well. I thought I could localize something down in his finger. I made an incision down his finger. Two or three days later the man consulted me again and I made an incision down the phalanx and found a little periosteitis. I made an incision with a bone drill and made a little furrow. God was surely kind to me, for the man got well. These people complain quite a good deal of pain at night, pain of a boring kind. I think that pain is typical of osteomyelitis.

DR. LEON M. BOGART, Flint, Mich., (closing): I had hoped to bring out more discussion, especially with the increased number of cases that we are seeing. I want to emphasize the fact that we learn by our mistakes. Four years ago I was consulted by a patient who had given a history of having pain in the right femur and paroxysms of temperature. He also gave me a history that he had been diagnosed as tuberculosis by a very competent chest man. I had forgotten at that time that one

may have a tuberculosis of the chest and have something else also. I told him to report back to this internist. He had tuberculosis of his chest and had better go back to him. He went back to the internist, and he also forgot that there might be another condition existing besides tuberculosis of the chest. Finally this man came under the treatment of a chiropractor. The man manipulated him for 25 treatments, then he came back to me. I sent him to the hospital and we found on X-ray examination a very large sequestrum which necessitated the removal of about one-third of the shaft of the femur. The man got well, but he was invalided for a long time. I blame myself because I was the first man he consulted. I learned a great deal from that case and it really prompted me to write this paper. I realize there is far more in these cases than we realize and we pass them up as growing pains, rheumatism and some other things. In this industrial era where the people rely so much on their hands and feet for livelihood, it means a great deal for a man or woman if they have an osteomyelitis focus to be given proper treatment after being properly diagnosed.

THE USE OF INSULIN IN THE TREATMENT OF DIABETES MELLITUS*

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While it is certainly true that insulin is the most important of this century's additions to our therapeutic agents, it is equally true that its effectiveness is assured only when it is used under the supervision of physicians who are thoroughly familiar with the principles underlying its use. Properly administered the results of insulin therapy in diabetes are brilliant. Patients in coma are rapidly relieved, their lives are prolonged indefinitely and the most severe may be supplied enough food to admit of any degree of activity. Improperly administered, the drug is largely wasted, unpleasant and serious reactions occur and death may result. These evils were predicted from our knowledge of the disease and of the nature of insulin, and the prediction has been justified by reports that are constantly reaching us of failures and even deaths that have followed the thoughtless or reckless use of insulin.

While many problems relating to insulin are as yet unsolved, enough has been learned concerning its value, limitations, and dangers so that a few broad principles for guides in its clinical use may be laid down. These principles are derived from our knowledge of the physiological pathology of diabetes and of the nature of insulin and from clinical experience.

It will be remembered that the primary defect of the diabetic patient is his inability to utilize glucose. Since all of the carbohydrate and more than half of the protein is converted in the intermediary metabolism into glucose, a high grade of inanition occurs in the more

severe cases. The combustion of fat is complete only in the presence of the combustion of a definite ratio of glucose. Failure to burn glucose results in the partial failure of the burning of fat. This manifests itself in two ways. First, the incomplete combustion of fat produces certain organic acids called, "acetone bodies," which accumulate in the blood stream, change its reaction toward the acid side and cause acidosis and diabetic coma. In the past this has been the cause of death of about one-half of all diabetics and of nearly all of the younger and more severe cases. Second, the failure of the fat metabolism greatly reduces the amount of energy derived from the food and the protein metabolism is greatly increased over normal. Also dependent on the inability to use glucose and probably due in part to inanition and in part to the saturation of the tissues with glucose, the diabetic is subject to a large number of distressing, incapacitating and fatal complications. These are the causes of death of the patients not dying in coma and almost without exception, the termination of the older and milder cases. All of these things are directly referable to the inability of the patient to utilize glucose.

This inability to utilize glucose is due to the deficiency or absence of the internal secretion of the pancreas. It is this secretion which has been isolated and named insulin. Administered intravenously or subcutaneously to animals or man, with either a normal or an elevated blood sugar, it causes a rapid fall in the latter reaching its lowest level in from 4 to 12 hours. This is apparently due to the conversion of glucose, which in its ordinary form is not available for the body, into a form in which it is available. The glucose is then in part deposited as glycogen and in part oxidized by the body cells. The amount of glucose removed from the blood depends upon the dose of insulin. While a number of factors influence the ratio between the insulin administered and the glucose utilized, as a usual thing one rabbit unit of insulin will cause the combustion of from 2 to 3 grams of glucose, ordinarily about $2\frac{1}{2}$ grams.

Previous to the isolation of insulin the treatment of diabetes mellitus depended upon a number of important principles which should not be forgotten. The uncontrolled or improperly treated diabetic who was allowed to continue with glucosuria inevitably became worse. His diabetes increased in severity so that he lost some or most of his remaining ability to utilize glucose, or else complications developed which were fatal. The average duration of life of such a patient was from 3 to 4 years. On the other hand uncomplicated cases with sufficient tolerance to allow

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freedom from glycosuria on a measured maintenance diet could live as long as healthy persons. Acidosis was avoided if the patient was able to use about one-fourth as many grams of glucose as of fat. The patient who was sugar free was able to utilize very much more glucose than when he had a glycosuria. A rapid gain in tolerance usually occurred during the first few weeks of successful treatment and a very slow gain occurred during the rest of the period of freedom from glycosuria. In all but a small minority of cases life could be prolonged by the prevention of inanition, coma, and complications. It is in the treatment of this small minority of cases and of those with serious complications that insulin has had its chief value.

In a consideration of the indications for the use of insulin in the treatment of diabetes mellitus we are confronted immediately by this question: Does insulin actually affect the disease itself? In other words, can it be considered a cure in the strict sense of the word; or does it offer only temporarily relief? Is its action in diabetes similar to that of thyroid preparations in myxedema where omission of the drug results in recurrence of symptoms; or does it actually return the patient to a normal status so that he can discard insulin and diets without returning to the diabetic state? If insulin is a cure, every diabetic patient should have it. If it is not a cure, patients who can return to a normal status on a maintenance diet without glucosuria should not be subjected to the discomfort of frequent subcutaneous injections, the dangers of reaction, and the expense of the treatment. It is obviously essential that we be certain of the curative effect of insulin before starting a long continued treatment of this type.

The period during which insulin has been available has, of course, been too short to permit of the final answer to this question. Reasoning *a priori* one would feel safe in assuming that insulin would not be curative. It is a form of substitution therapy in which we supply from the outside a secretion which the subject would normally elaborate for himself. It has been suggested that the rest of the pancreas resulting from its use will allow regeneration of the island tissue. This has not been observed with an other analogous preparation such as thyroid and pituitary extracts. Furthermore, since we must feed glucose in quantities proportional to the insulin, the pancreatic rest that is so obtained can be no greater than that resulting from restriction of carbohydrate to a level inside the patient's ability to utilize it. The pancreas of a patient who can remain sugar free and utilize 100 grams of glucose does no more work than the same pancreas when

the patient is fed 150 grams of glucose with the administration of sufficient insulin to care for the extra 50 grams; if the insulin is given without the extra 50 grams serious reactions will, of course, occur, because the pancreas continues to elaborate its own secretion for the disposal of the original 100 gms.

No acceptable evidence of gains in tolerance directly due to insulin has been presented. It is true that certain types of gain in tolerance have been seen in patients receiving insulin. When a patient is desugarized by insulin, it will be observed that he burns much more glucose than he did when he had his glycosuria. This same thing occurs, however, when the patient is desugarized by any other method. The rapid gain in tolerance should be attributed to the desugarization, not to insulin. Furthermore, an infection in a diabetic will very markedly decrease his ability to utilize glucose and his tolerance will increase as he recovers from his infection. Such increases in tolerance must not be attributed to insulin, but to the removal of the infection. Finally, there is noted in any large group of diabetics a certain fluctuation in tolerance for which we are usually unable to account. These facts must be kept in mind in any study of the effect of insulin on tolerance.

Not only has no evidence of the curative effect of insulin been presented, but there has also accumulated some data to the effect that its influence is only temporary.

Mr. F. J., for example, is a young, severe diabetic, an instructor in the University, who has co-operated in an unusually intelligent and conscientious manner with us in his treatment. He entered the hospital in coma on March 1st of this year. The coma was relieved by insulin and he was made sugar free. Three weeks later a diet containing 55 grams of protein, 240 grams of fat, and 45 grams of carbohydrate caused a glycosuria of 14 grams a day. During the interval up to September 1st he maintained himself in a sugar-free state on a diet containing 70 grams of protein, 290 grams of fat and 75 grams of carbohydrate taken with from 20 to 30 units of insulin daily. On September 1st he returned to the hospital at our request and was again given a diet containing 55 grams of protein, 240 grams of fat, and 45 grams of carbohydrate without insulin. It will be remembered that five months previously he excreted 14 grams of sugar daily on this diet. This time on the same diet, but after the use of large doses of insulin for five months, he excreted the same amount of sugar, namely, 14 grams.

We have not as yet seen a single case in which the administration of insulin has been followed by a gain in tolerance that could not be accounted for by desugarization or recovery from infection.

Other clinics have had the same experience. Banting described a very similar case as evidence that insulin did not cause a loss in tolerance and the Toronto group have been very careful to insist that insulin was not proposed

as a cure for diabetes. It is the published opinion of the insulin committee of the American Medical Association that insulin has no effect on the disease itself and that its use is limited to a relatively small group of patients. With this opinion we entirely concur.

INDICATION

There are two types of diabetics for whom insulin is indicated. The first are those patients who cannot stay sugar free on a maintenance diet. This includes a very small percentage of all diabetics. The great majority can be kept sugar free on diets that will allow them to go about their ordinary activities, maintain their weight and establish nitrogen balance. Since our only object in administering insulin to uncomplicated cases is to enable us to give them enough food, it is manifestly unfair to subject such patients to the discomfort, expense and dangers of insulin.

The actual level of diet which is maintenance cannot be set arbitrarily for all patients. It will depend upon the size, sex and age of the patient and still more upon the amount of his physical activity. The caloric requirements of a clerk or a housewife is quite different from that of a day laborer or a lumberman. For the majority of subjects, 2500 calories per day are sufficient. Hard work can be accomplished on 3,000 calories daily, and we have never given as many as 3,500. The requirement of any given patient can best be established by observing carefully changes in weight and strength over a period of a few weeks. If he loses, he is not getting enough food and should be given more. Insulin should be used only if required to keep him sugar free.

The determination of the dose in a given case is largely a matter of experiment. The most satisfactory method of balancing the dose against the diet begins with desugarization by diet alone. For this purpose we have found that a diet containing 20 grams of protein, 90 grams of fat and 14 grams of carbohydrate is very satisfactory. After the patient has become sugar free, his diet is increased by steps until a maintenance diet is reached or until glycosuria occurs. In the latter event sufficient food is added to give the patient a maintenance diet and insulin is given to burn all glucose above the patient's ability to utilize it himself. The dose of insulin may be calculated approximately as follows: The total of glucose in a diet is reckoned as all the carbohydrate plus 58 per cent of the protein, plus 10 per cent of the fat. The total glucose in the maintenance diet which it is desired to feed the patient minus the total glucose in the highest diet that the patient will tolerate without glycosuria or with a trace of sugar is the amount

of glucose that he cannot handle himself. He is started on about half as many units of insulin per day as there are grams of glucose that he cannot handle with the insulin from his own pancreas. If the patient does not stay sugar free on this dose, it is increased cautiously until enough is being given. If reactions occur the dose is, of course, reduced.

Occasional severe diabetics, because of the failure of diet to desugarize, because of the high grade of inanition, or because of serious acidosis, may require desugarization by insulin. Under such conditions the patient may be put on a maintenance diet and the amount of sugar in the 24-hour urine noted. A corresponding dose of insulin is given, calculating that one unit of insulin will cause the utilization of 2 grams of glucose. This dose may be increased cautiously if required. If this method be used, it is nearly always necessary to rapidly reduce the dose of insulin after the patient becomes sugar free.

For this type of patient who is being given insulin so that he may be fed more calories, a very careful adjustment of dose to diet is required. If too little insulin or too much food be given, the patient will continue to excrete sugar and may be expected to suffer the downward progress and the complications which develop in uncontrolled diabetics. If, on the other hand, too much insulin or too little food be given, serious and even fatal reactions will occur. It is, therefore, of prime importance that a very careful and thoughtful study of each case be made and that the physician be certain that he has established this balance between the food and the drug.

The number of daily doses of insulin and the time of administration will vary in different patients. If the extra glucose in the diet above the patient's ability to utilize sugar is small it may be added to one meal and the insulin given 30 minutes before that meal. If the quantity of extra glucose fed be larger it should be divided equally between two meals and the insulin divided correspondingly. In the very severe diabetics, it may be necessary to divide the extra glucose between all three meals and the insulin accordingly. Finally, the extremely severe diabetic, fortunately rare, may require insulin as often as every four hours. No method of administration has been proven successful except by the intravenous or subcutaneous route. The latter is the usual method of choice because the slower absorption is desired and because of its greater simplicity.

The group of diabetics to whom insulin should be given in order that they may be kept sugar free on a maintenance diet is small. For the rest, whose tolerance is sufficiently high to permit of feeding a maintenance diet with-

out insulin, the drug is held in reserve for emergencies. These emergencies are of three types: coma, acute infections and surgery.

COMA

A knowledge of the treatment of coma with insulin is of especial importance to the practitioner who may be called to see such a case at any time. Delay in beginning treatment while the patient is being sent to a distant hospital or clinic increases the difficulty of treatment and may be fatal. It will be remembered that diabetic acidosis is the result of the incomplete combustion of fat which is in turn due to the utilization of an insufficient quantity of glucose. Treatment is not aimed at in making the diabetic in coma sugar free but rather at making him burn more glucose. This will allow the complete utilization of fat and the acidosis will be relieved. If this principle is kept in mind, the treatment of acidosis becomes relatively simple and can be carried out without blood sugar determinations. With each dose of insulin, a corresponding dose of glucose is given. For example, 20 units of insulin is injected followed immediately by 40 or 50 grams of glucose. The latter may be given by mouth if the patient is still able to swallow, by stomach tube, intravenously, or even, in very dilute solution, subcutaneously. A very satisfactory method of administering glucose to an unconscious patient is in a 50 per cent solution, intravenously, by means of a 30 or 50 c. c. luer syringe. When the patient regains consciousness glucose and insulin should be continued for 12 to 24 hours.

Auxillary measures are very important. The diabetic with acidosis is dehydrated. Furthermore, free diuresis is desired for the elimination of acetone bodies. Water is, therefore, indicated in large quantities. This may be given by mouth, hypodermoclysis, rectum, or intravenously. It is important to see that the bowels are empty. It will be found that most of these people have not had a bowel movement in several days and it may be necessary to give enemata at hourly intervals for some time before results are obtained. Finally, for the direct neutralization of the acidosis sodium bicarbonate is indicated. This also may be administered by mouth, rectum, or intravenously.

After the acidosis is relieved the patient may or may not require continuation of insulin therapy. The decision will be made as in any other diabetic. The fact that he has been in coma is not evidence of severity.

An infection is important to the diabetic for two reasons. His resistance is low. An infection which would be minor in an otherwise normal person may overwhelm the diabetic and end fatally. Not only is the infection worse

because of the diabetes but the diabetes is also worse because of the infection. A return or an increase in glycosuria is the rule. It therefore becomes desirable to give such a patient sufficient insulin to keep him sugar free. The insulin will artificially bring his tolerance back to the level at which a maintenance diet may be fed without glycosuria and he may more successfully combat his infection.

The complications of diabetes requiring surgical intervention fall in two groups. The larger group contains those patients on whom operation may be safely postponed. In such cases, the patient should be desugarized and established on a maintenance diet with or without insulin as required. He should be on this diet without glycosuria or acidosis for a week before the operation. The smaller group consists of those patients for whom an immediate operation is necessary to save life. Surgery in such a case is fraught with two dangers; a severe and fatal acidosis may be precipitated, or the wound may fail to heal because of the patient's susceptibility to infection or because of the poor healing power of his tissues. The acidosis will be combatted by the administration of insulin and glucose as previously described. The patient should be desugarized by insulin used according to either of the methods suggested above. The proper use of insulin and of diet has made surgery of the diabetic little, if any, more dangerous than surgery of the non-diabetic. Conversely, of course, insulin improperly used may not only be valueless, but increase the dangers.

DANGER

The important danger in giving insulin lies in the ease with which an overdose may be given. An overdose results when either too little food or too much insulin is administered. The former may occur as a result of a dietetic error, variations in the food value of different samples of the same food, refusal of the patient, after the injection, to eat all his food for any reason, or a prescription of a diet containing too little glucose above the patient's ability to utilize it himself. A large disproportion between the food and insulin occurs only in the latter two cases. The former may be met by giving the patient a lemonade containing an amount of sugar equivalent to the glucose which would have been derived from the food which he refused. The improper dietetic prescription is, of course, due to the carelessness or ignorance of the physician. We have seen it most commonly in patients who had been treated with insulin without its being balanced against measured diets. The administration of insulin under such conditions is, to my mind, little short of quackery.

The administration of too much insulin may occur as the result of a number of widely different causes. An error may be made in the amount prescribed. Aside from the conditions just mentioned in which this occurs, such an overdose is seen most commonly in the patient who has been desugarized by insulin and whose dose has not been sufficiently decreased to allow for the rapid increase in the ability of the patient to utilize sugar. A source of error which greatly complicates the use of insulin is found in the variation between different batches of insulin and of the patient under different conditions. The manufacturers admit a difference in potency of different lots of as much as 20 per cent. This is not the fault of the producer, but rather of the method of standardization and is one that will probably be overcome in the future. At present it is necessary to bear in mind the fact that with a change in insulin lot without change in dose or diet glycosuria or reaction may be expected. The variation in the ability of the patient to utilize glucose from day to day is also important. For example, we have observed that unusual physical exercise will often increase the combustion of glucose and produce a reaction.

The reaction to an overdose of insulin is associated with a fall in blood sugar to a level somewhere below 0.07 per cent and the diagnosis is definitely established only by a blood sugar determination. However, the symptoms are characteristic and only rarely will error be made even though no laboratory is available. A patient who has once had a reaction will always recognize the onset symptoms of another one. Most of the symptoms are referable to the nervous system. The patient complains of perspiration especially of the hands, a feeling of tremulousness, though there may be no objective tremor, and a "gone feeling" in his abdomen. These are often associated with a tachycardia, which is a valuable sign in children. As the hypoglycemia progresses choreiform twitchings and even convulsions develop. Eventually, the patient passes into coma and if the situation is not controlled death may occur.

Fortunately, the antidote is simple. All that is necessary is to bring the blood sugar back to normal by the administration of glucose or some sugar that is rapidly converted into glucose. If the patient is conscious, glucose or cane sugar by mouth in any form is followed by rapid relief. These may be conveniently given in lemonade, candy, or as sugar lumps. All diabetics taking insulin should have available during the whole 24 hours of the day sugar or candy. With the onset of the first symptoms he should eat this. Unless the

overdose was unusually excessive two lumps of sugar or two pieces of taffy candy will control the reaction. If the patient is unconscious, glucose should be given intravenously. Again, the 50 per cent solution slowly administered by a large luer syringe in convenient. Prompt action is important and every physician using insulin should have a sterile glucose solution readily available at all times.

From what has been said it will be seen that insulin has not simplified the treatment of diabetes but has greatly complicated it. Properly used, the results may be brilliant. It is, however, a two edged sword which kills as well as saves. Banting and his associates have placed at our disposal an agent which should make it unnecessary for any diabetic to die of his disease. This agent must not, however, be used blindly, carelessly, or thoughtlessly. If the medical profession uses it without a thorough knowledge of what it will do, and without a complete understanding of the principles underlying the treatment of diabetes with diet and with insulin, most of the drug will be wasted and the mortality rate among diabetics will reach a higher level than we have ever seen before.

NOTE—The insulin used in this department was furnished, partly without charge under the trade name "Iletin," by the Eli Lilly Company, and I wish to acknowledge their courtesy in this matter.

GOITRE IN PREGNANCY*

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Goitre incident to pregnancy may be that which was present before or that which occurs apparently as a direct result of the gestation. Simple enlargement of the thyroid during pregnancy is often considered as a physiological call for an increased amount of thyroid secretion. This contention seems supported by observation of Crotti (1) that the enlargement is due to an increase in the amount of true glandular cells, rather than to colloid or adenomatous tissue. This form of enlargement is of very little interest to the obstetrician except as it prompts him to administer iodine which cures the goitre in the mother and at the same time prevents it in the babe.

The simple goitres which were present before the pregnancy are of greater importance both because they may produce serious pressure symptoms, and they also may be activated by the pregnancy into a dangerous toxicity. They too, therefore, are of slight interest to the obstetrician unless one of these conditions should develop.

*Read before Section on Gynecology and Obstetrics, Annual Meeting M. S. M. S., Grand Rapids, Sept., 1923.

THE INCIDENCE OF GOITRE IN PREGNANCY

Many writers have stressed pregnancy as a cause of goitre while others declare that if a careful history is obtained it will show that most of these enlargements were present in some degree before pregnancy occurred, and that these were merely aggravated by the gestation. Goitre has been observed as occurring for the first time during pregnancy in from 6 per cent to 28 per cent of cases only. Mueller (2) declares that a pregnancy without a goitre is a rarity in Canton Bern.

Pregnancy, on the other hand, in cases of exophthalmic goitre, is rare. The noteworthy sexual apathy observed in these patients may be a factor. Some authors attribute it to amenorrhoea, but the writer has never observed a case of complete amenorrhoea in a case of toxic goitre. Watson (3) quotes Halliday-Kroon, as observing only one toxic goitre in 15,000 dispensary patients, while at the same time he had 12 in his private practice. He also reports that Bonnaire found only two cases in 30,000 dispensary patients; and Seitz in 1913 was able to collect only 112 cases from his own records, personal letters and the literature. Pasman (4) quotes Ramos of Buenos Aires as observing only two cases in 12,000 pregnancies, and only one case had been seen in Rawson hospital in 10 years. He reported one case of his own.

The incident of toxic goitre in pregnancy in Michigan must be greater than these reports indicate, as the writer himself has observed in the past six years, eight cases in which surgical intervention was indicated. There were undoubtedly other cases of toxic goitre, but in which the clinical picture was not complete, as those of extreme nervousness, marked digestive disturbances and melancholia. No doubt but that many of these atypical cases are not diagnosed because the thyroid is enlarged very little if any. It must be remembered that the size of the gland is of very little importance in the diagnosis. Also that exophthalmos is rare and is a late symptom. It is better to depend less on these findings and more on the afebrile tachycardia, finger tip tremor, sweating, the *tache' cerebrale*, the chair test (difficulty or inability to step up on a chair, unaided), and the characteristic lustrous eye and frozen expression. It should also be kept in mind that even cases of severe hyperthyroidism go in waves, and when the curve is down even the pulse and metabolism test may be negative. They will, however, show a prompt increase with physical or psychical stimulus out of all proportion to the severity of the factors.

THE EFFECT OF GOITRE IN PREGNANCY

It is generally believed that simple goitres nature on pregnancy. On the other hand,

have no appreciable effect of a detrimental Mueller (2) states that endemic goitre plays the chief part in the causation of common symmetrical contracted pelvis, since most of these occur in cretins.

Exophthalmic goitre in the pregnant woman is of greatest importance. Schmauch (5) gives the damage to the heart as the greatest danger in toxic goitre, but says that it also causes abortion and post partum hemorrhage, the latter being due to the lessened ability of the blood to coagulate. Kosmak (6) declares that in the presence of hyperthyroidism, the danger of convulsions is greatly increased, and may come on without albumin or casts. Schmauch (5) further states that the fetus is not affected by hyperthyroidism, except as this condition may cause death through abortion. The writer has never observed abortion due to toxic goitre.

As far as the literature was reviewed for this paper, no mention was made of puerperal insanity as a result of toxic goitre. The writer believes that this should be added. At least two marked cases of manic depressive insanity, entirely due to goitre have come to the writer in cases of women who were not pregnant. There is, therefore, no reason why it should not occur in those patients where pregnancy is the exciting factor in their goitre toxicity. Two personal cases illustrate:

CASE HISTORIES

Case 1. Mrs. J. H., white, married 5 years, para 3; at 3 months gestation. She complained of nervousness, loss of weight (10-12 pounds in the past year), palpitation and tachycardia. Six years before, and one year before marriage, she had a "nervous breakdown" for six months. The symptoms observed at that time all recurred with enlargement of the thyroid at the time of her first pregnancy, and continued through the whole gestational period, subsiding after delivery.

With the second pregnancy about one year later, the symptoms all recurred, and with increased severity. There was, however, little or no improvement following labor, but instead a persistence of the clinical picture of toxic goitre until the third pregnancy, which took place two years after the second one. The symptoms became more exaggerated than at any time before. The nervousness was very marked, assuming the character of a definite mental depression. She had an unwarranted fear of the friendliness of other women toward her husband; worried inordinately about his office visitors, his telephone calls, and actually did physical violence to a young woman in an adjoining office, whom she unjustly suspected. This was purely a fear drive with her goitre pathology as the activating factor. Her depression drove her to make two or three attempts to abort herself with a catheter.

At three months gestation we did a 90 per cent thyroidectomy under local anaesthesia, and an uncomplicated recovery ensued. The patient then went to term and had a normal delivery. At no time during the pregnancy or since has there been any evidence of lack of thyroid, in fact, improvement began at once and continued until the present time. The weight at the time of the operation was 113

pounds; after delivery she weighed 138 pounds. She is still free from symptoms three months after delivery. Both the world and her husband look good to her now, and her husband says he can even answer the phone during the breakfast hour without her suspicions being excited.

Case No. 2. Mrs. P. D., white; age 31, married several years; para 3. She had a history of several attacks of influenza prior to her first pregnancy, which occurred four years ago. Goitre appeared with rapid and marked enlargement just before the first labor. The employment of low forceps was the only incident in the delivery. A marked mental disturbance ensued, her greatest hallucination being that the nurses were trying to kill her, and that her doctor was in league with them. She was very much excited and noisy. This, treated as a case of puerperal insanity, lasted 4-5 weeks, and then gradually subsided. Eighteen months later a second pregnancy occurred, with a normal delivery at term. The mental symptoms formerly observed recurred, but milder in form, and only of one week's duration.

After eighteen months had passed, the patient first came under the writer's care, stating that she was very nervous just as she had been in her two former pregnancies. She was extremely nervous and depressed—there was an anxious expression and a slight exophthalmous. Pulse of 140, temperature of 98 deg. 6. Small diffuse goitre, with marked pulsation. The patient was observed frequently during the pregnancy, and the pulse never went below 120, the blood pressure 132/75-144/80; no albumin or casts appeared in the urine. In the eighth month she also began to have fainting spells; her respirations were usually rapid, and a cyanotic tinge was present, especially to the lips.

Thyroidectomy had repeatedly been advised and as often refused. Finally preparations were being made as an alternative to bag her, when she spontaneously went into labor which proved to be normal in all respects. Strange enough, just before labor, the pulse went down to 100, the pulsation of the goitre became less, and the patient looked less toxic. Two days after delivery a second patient who was very nervous was put into her room. A marked mental disturbance ensued, but it subsided after 24 hours.

These three post partum mental upsets being so much alike in kind, and with the definite picture of toxic goitre during the last pregnancy, little doubt is left in the writer's mind that the so-called "insanity" in this case was only an expression of hyperthyroidism.

THE EFFECT OF PREGNANCY ON GOITRE

Pregnancy causes an enlargement in most simple goitres, in some cases causing an alarming degree of dyspnoea, either before or during labor. Tracheotomy may be indicated according to some authors, but the need of it has never come in the writer's experience. The most serious effect of pregnancy on goitre is to cause a simple goitre to become toxic, or to aggravate a pre-existing hyperthyroidism. Conversely, it is also well established that emptying the uterus causes improvement in the goitre symptoms. A personal case illustrates:

Case 3. Mrs. J. R., white; aged 31; para 4. On September 12, 1922, patient complained of a marked dyspnoea, palpitation and tachycardia, general weakness, loss of weight. These symptoms had all come on since she had become pregnant three months before, and were so violent that no improvement

came from three weeks in bed under good medical care. The pulse averaged, even in bed, 100 to 120. The slightest effort, such as talking or sitting up in bed, caused a great aggravation of the symptoms, especially dyspnoea, respirations being 30 to 35 and labored. A marked mitral systolic murmur developed, and albumin and casts appeared in the urine.

This patient had had a large nodular goitre for many years, slowly progressive, but never before toxic. In 1919, she had an X-ray diagnosis by Doctors Crane and Jackson, of stone in both kidneys, and an old healed pulmonary tuberculosis. At that time the stone was removed from the right kidney, but the left kidney was not operated. On account of this former history relative to kidneys and lungs, and the marked toxicity of the present hyperthyroidism, it was decided to do a therapeutic abortion, and follow with a thyroidectomy as soon as sufficient improvement took place.

The uterus was emptied completely by dilatation and curetage under novocaine anaesthesia in October, 1922. An uncomplicated convalescence took place and the pulse was normal six days after operation. Improvement of all symptoms followed slowly, and thyroidectomy was done about 2 months later, at which time about 90 per cent of the gland, weighing 225 grams, was removed under local anaesthesia. Complete recovery of this patient has followed, and her general health is much better than before the aforementioned illness.

In this case pregnancy activated a pre-existing goitre, which in turn produced the marked cardiac, renal and nervous symptoms. The prompt improvement following the therapeutic abortion thoroughly justified the procedure, and an otherwise hazardous operation was made very safe.

C. H. Mayo (7) in discussing the cause of toxic goitre cites a common belief that shock or fear are important factors but he states that this is only a hook on which to hang the date of the first manifestations of hyperthyroidism in a person suffering from hypersecretion of the thyroid gland. He states that the metabolic test would have shown hyperactivity at the time. Pregnancy must also be put in the same class with fear and shock, as being only an exciting factor, the hyperthyroidism having pre-existed in either an active or dormant state.

TREATMENT

As stated above, the cases of simple hypertrophy only need iodine. Colloid or adenomatous goitres require no treatment unless they produce pressure symptoms or become toxic. If these symptoms occur to a sufficient degree, a choice must be made between thyroidectomy, tracheotomy and delivery. This is also true in cases of toxic goitre. If it is true as reported by Seitz (8) that 60 per cent of cases of toxic goitre are made worse by pregnancy, the obstetrician has here a greater responsibility than in the handling of a case of simple goitre. Most of the toxic symptoms develop in the second, third or fourth month. Schmauch (5) advises thyroidectomy and reports seven cases which he operated with six recoveries, and uneventfully completed pregnancies. One death occurred, said to be

due to thymus. Crotti (1) reports having operated satisfactorily two cases of this kind. C. H. Mayo (9) on the other hand, prefers to not operate during pregnancy. Bram (10) prefers prolonged medical treatment.

Watson (3) advises rapid delivery if symptoms continue, and Caesarian section if the child is viable. Engelhorn (11) objects to thyroidectomy because of the danger of hemorrhage should labor set in, and because of the danger of hematogenous infection of the puerperal uterus from the wound. He recommends emptying the uterus instead, and cites two cases. These two dangers, hemorrhage and hematogenous infection, seem to the writer as extremely remote.

Schmauch (5) prefers thyroidectomy to abortion, but also emphasized the importance of dietetic and hygienic care, which he thinks is of greater value than the administration of medicines.

FURTHER PERSONAL CASES

Case 1. Mrs. E. F., white woman; aged 21, married five years; para 1, at 2 months gestation. Two years ago the patient had had a diagnosis of ch. tonsillitis, early hyperthyroidism, and unruptured hymen. She was averaging a pulse of 112. At that time a vaginal dilatation was done under ether, and six months later a tonsillectomy. One year ago the patient had an acute gangrenous appendicitis, at which time the appendix was removed. Following appendectomy the pulse averaged 110, with an average of only 1 deg. of fever, until the eleventh day post-operative. In May and June, 1921, the patient had an upper respiratory infection of four to six weeks' duration. As this subsided the pulse gradually increased until it reached 120, where it remained. Palpitation also came on. On July 9th, the pulse was 128, with palpitation, tremor and slight exophthalmos. Last menstrual period February 15, 1922. On February 25, 1922, to the above symptoms were added early fatigue, dizziness, and definite pulsation of the thyroid. March 4, 1922, pulse was 120, with the above symptoms continuing. Thyroidectomy advised and done, April 29, 1922, with the patient two and one-half months pregnant, on account of the increase of symptoms since the pregnancy began. Ether anaesthesia, 75 per cent removal, good recovery, with slow but steady improvement in symptoms. Patient was "bagged" December 12, 1922, on account of being two weeks overdue. Medium forceps, laceration and repair—ether anaesthesia. Pulse averaged 100 to 105 for five days, and then stayed at 85 to 90. Babe was normal in all respects. This patient has nursed her babe, and all symptoms have improved steadily.

Case 2. Mrs. N. K., white; aged 22, para two at six months gestation. Complained of marked dyspnoea, palpitation and tachycardia, weakness, cough, vomiting and fainting, together with much nervousness. The symptoms developed during the present pregnancy, and progressed very rapidly during the fourth and fifth months. Was picked up on the street following a fainting spell, and taken to the hospital. Goitre had existed since childhood. Examination showed the excitability and frozen glare of one with advanced hyperthyroidism. Pulse 120, temperature 98 deg. 6, marked systolic murmur over the base of the heart, pronounced finger tip tremor. Lemon sized enlargement of the right lobe of the

thyroid—marked pulsation in the gland. Pregnancy apparently normal. Thyroidectomy, right lobe only, done under local anaesthesia, after a few days rest in the hospital. Uneventful recovery followed. Patient left the hospital 10 days later with a pulse of 90, and absence of the subjective symptoms. General health improved greatly following the operation, in spite of the pregnancy. Patient went to term without complications and delivered normally a healthy child.

Case 3. Mrs. G. B., a white woman; para 2 at 4 months gestation; aged 28. Complained of choking, nervousness, palpitation, dyspnoea, loss of strength, especially legs. Had had a goitre since 13 years of age. The foregoing symptoms developed during the present pregnancy and were progressive. Examination: Robust young woman with large pulsating goitre, involving all lobes, slight exophthalmos. Very much exhausted, and very restless. Fine finger tip tremor, pulse 110. A 90 per cent thyroidectomy was done under local anaesthesia. Recovery ensued without complications to the mother or babe. Labor occurred at term.

Case 4. Mrs. M. N., white; para 4, at 5 months gestation. Complained of nervousness, sacral backache, pelvic pain. Had had a goitre since the age of 16. Nervousness for eight months past, but greatly aggravated during the present pregnancy, and steadily progressive, especially after the second month of gestation. Robust woman, weight 135 pounds with moderate sized goitre, mostly right and middle lobes. Rash over the whole body from bromides taken for her "nervousness." Pulse 112, temperature 99 deg. 6. Partial thyroidectomy done, right and middle lobes under ether anaesthesia. Post-operative hemorrhage followed the operation in an hour, necessitating a reopening of the wound. Operation followed for six days with a pulse of 120 to 140, though patient was afebrile. Pulse was 100 on the tenth day, when discharged from the hospital. Labor normal at term, babe normal. On November 28, 1918, patient reported a gain of 25 pounds in weight, and no subjective symptoms as before operation.

Case 5. Mrs. L. J., white; age 27 years; married seven years; para 1 at term. Complained of dyspnoea, palpitation and tachycardia, hyperemesis, hyperhydrosis, and general weakness. The dyspnoea had been present for two months, the palpitation and tachycardia since the second month of gestation, coming on while the patient was in bed on account of the nausea and vomiting. The hyperemesis present since two weeks pregnant. In bed for six weeks at home and two weeks at the hospital. Less severe for the last three months. Examination: Robust young woman, pulse 120, temperature, 98 deg. 6, respiration 24, blood pressure 120/75. Finger tip tremor, exaggerated knee jerks. Her physician reported that her pulse had averaged 110 to 120 during the past three months. Pulse just before operation was 140, just after, 120. Abdominal Caesarian section was done to reduce the strain of labor to a minimum. Ether anaesthesia. No incident during operation, and no complications during recovery. Discharged the thirteenth day post-operation with a pulse of 90. Babe normal in all respects.

SUMMARY

1. Toxic Goitre is a dangerous complication of pregnancy.
2. Thyroidectomy has proven, in the author's experience, as safe in pregnancy as elsewhere, and the same favorable improvement follows operation.

3. Neither abortion nor uterine infection have been observed in the personal cases.

4. Thyroidectomy is preferable to abortion early in pregnancy, but abdominal Caesarian section is preferred late in pregnancy. Special cases may require both abortion and thyroidectomy.

5. No symptoms of hypothyroidism have been observed in women where 75 per cent to 90 per cent of the gland has been removed during pregnancy for toxic goitre.

6. Certain cases of so-called puerperal insanity may be explained by the presence of toxic goitre.

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DISCUSSION

DR. HUGH FREUND, Detroit: The subject of goitre is one that I have been particularly interested in for four or five years, ever since basal metabolism has come to the front in studying them. I was particularly interested to hear how Dr. Boys had managed his cases, whether he has allowed them to go through and confined them, or whether he had resorted to a partial lobectomy. I see he has been radical in every case, not doing the preliminary ligation and waiting for the symptoms to subside, but has done a thyroidectomy in all of the six cases. He has had a very fortuitous outcome. I have seen it done in other cases in which it was not so successful. I would like to ask what the effect has been on the child in each case. In the first case I think he mentioned that the child nursed through a period of time. It often happens that these children develop quite unusual symptoms following the nursing of the mothers with toxic thyroidism.

Occasionally you find a patient who refuses thyroidectomy for fear of the outcome of the operation during pregnancy and prefers to wait to see what the outcome will be. I have treated the thyroid condition in some cases while the mother carried

through her puerperium and was delivered of a normal child. In two primipara I have in mind the results were rather startling. The pulse was rapid and the mother acutely ill, but within two days the symptoms subsided. In another case the mother died following confinement.

I am inclined to the conclusion Dr. Boys reached, that after all thyroidectomy early in the pregnancy is the best thing, whether we have an adenomatous goitre that has become toxic or one that is threatening functionally through the thyroid. I do not believe in this in cases not complicated by pregnancy, but in general in pregnant women I believe a thyroidectomy is indicated.

DR. C. E. BOYS, Kalamazoo, (replying to Dr. Freund): I appreciate Dr. Freund's remarks on this subject, knowing how much work he has done in this line, and would like to get some information from him while I have a chance. We know there is an increase in the metabolic rate during pregnancy and I wish the Doctor would enlighten us on this point. I did not mention the metabolic rate partially because of this normal increase during pregnancy and the thought that we might confuse this, with that due to the goitre.

DR. FREUND, (replying to Dr. Boys): Our impression is that in all toxic hyperthyroidosis the metabolic rate is increased away out of proportion to what one would expect in pregnancy alone. There is an increase in the rate in a normal woman during pregnancy, the increase depending upon the stage of the pregnancy. In the early months it is not great, but in the later months it sometimes goes to 75 below normal.

DR. BOYS (closing): I am grateful to Dr. Freund for this information and it seems that in these women the determination of the metabolic rate is not accurate, as in others.

Perhaps you know that in the last year the men at the Mayo Clinic have swung about in the treatment of toxic thyroid. Where formerly it was thought that no iodine should be given, they are now giving it in true hyperthyroidism. At the same time they caution that if this treatment is employed in a case of toxic adenoma you will have a most terrific reaction, with bad results.

In a general way, one can tell how the glands can be differentiated in these two types of goitre and we would have to differentiate the condition very carefully, trying out the iodine, so that in cases of true hyperthyroidism it could be used. In the six cases reported two had pre-existing goitres, but in the others it came on during pregnancy for the first time.

The effect on the child nursing a mother with goitre would have to be considered somewhat like a baby nursing a mother after eclampsia, except that after delivery rapid improvement takes place in the thyroid condition and therefore the patients do not remain toxic as long as they do following the eclampsia. I have seen no ill effects in these cases. If the patient is operated in the early or middle months of pregnancy there is full time to overcome all toxicity before the baby nurses.

Dr. Freund also mentioned the prompt improvement in symptoms two days after delivery. That only corroborates the statement made that delivery promptly removes the symptoms of hyperthyroidism.

I think this topic deserves more attention than it has received, especially in the cases that have been overlooked or called something else during pregnancy.

THE DIFFERENTIATION OF DIABETIC COMA AND HYPER-INSULEMIA—NOTES ON THE PROGRESSIVE DEVELOPMENT OF DIABETES IN AN INFANT

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It would seem strange at first sight that two such opposite conditions as diabetic coma and hyperinsulemia, the one associated with hyperglycemia, the other with hypoglycemia, should be mistaken for each other. Yet this has been done and the result could easily have been fatal. The following case illustrates the point:

CASE REPORT

H. W., male infant, 2 years old, entered the hospital April 20, 1923, with the history of an acute respiratory infection which developed 11 days previously and which was followed by marked thirst. The physician referring the case to the hospital promptly recognized the possibility of diabetes and on examining the urine, found sugar. The infant had been bottle fed with some difficulty. There had been no other illnesses—no other infections.

The physical examination showed a well developed and well nourished infant. There was a cervical and inguinal adenitis of moderate degree, otherwise the examination was negative.

As our observations progressed it was found that while the urine showed as much as 6 and 7 per cent of sugar, a daily output of about 24 grams, the blood sugar was only .08 per cent Folin on entrance and .075 per cent a week later. The blood sugar continued around these figures until May 5, when it was found to be .252 per cent, and May 8, .334 per cent. These findings definitely establish the case as one of Diabetes Melitis. The patient was discharged home July 27th on a diet containing 38 grams of carbohydrate, 25 grams of protein, and 132 grams fat, about 1,480 calories. Five units of insulin three times a day were necessary.

Before leaving the hospital the mother had become entirely capable of carrying out the diet and measuring and administering the insulin injections. She had also been instructed in the necessary urine chemistry and the significance of positive and negative tests.

A week after the patient returned home sugar appeared in the morning urine and continued to do so until July 16th, when the patient re-entered the hospital. The mother gives the following information:

July 12th.—The patient passed a restless night. He had to be urged to eat his breakfast. Previous to this time his appetite had been good. He played about all the morning and at noon the urine was sugar free and remained so all day.

July 13th.—The patient passed a restless night. The morning urine gave a heavy sugar test, as did also the sample taken before dinner. He was sugar free at supper time. His appetite was poor all day.

July 14th.—He passed another restless night. He awakened thirsty several times. The morning sugar was heavy. The child was very irritable all day and it was with great difficulty he was made to eat his food. His bowels were constipated.

July 15th.—The mother says he passed a very restless night. He wanted water frequently. He awakened with heavy breathing. She observed no undue flushing of his face, but did observe that his breath smelt sweet. The patient refused breakfast. The mother reported these observations to her physician by telephone, telling him there was sugar in the urine. He was of the opinion that the symptoms were due to too much insulin and advised her to discontinue it for the present. The patient refused his dinner and supper. The urine sugar remained heavy all day. The patient breathed hard all day and was nauseated several times. From her knowledge of diabetes the mother became alarmed. Her physician had gone out of town for the day. They called another physician by telephone, who was said to have received instruction in the giving of insulin. After hearing her story he also thought the symptoms were due to too much insulin. The mother remarked that she had been instructed at the hospital that if there was sugar in the urine the child was not getting too much insulin. She says that the physician was of the opinion that there was not enough sugar in the blood and advised her to continue leaving off the insulin. Unfortunately, because of an emergency case the physician could not make a visit to the patient's bedside. About 8:30 p. m., the patient became very drowsy and tossed about in his bed at intervals. He wanted water several times through the night. At midnight the breathing became deeper and the patient acted as if in pain. The restlessness became more marked. At 2 a. m. he vomited, and continued doing so at intervals of 20 or 30 minutes until 4 a. m. He asked for water after each vomiting, but could not retain it long. By this time the breathing had become very much deeper and the symptoms more alarming. They called the family physician, who arrived soon after this and recognized the picture of acidosis and that the patient should have had his insulin. He hurried the patient to the hospital.

Soon after entering the hospital, the morning of the 17th, a blood sample was taken (9 a. m.) and the sugar found to be .408 per cent Folin. At 9:30 a. m. 20 units of insulin (Lilly) were given subcutaneously. At 10:30 the patient continued to breathe hard and 15 units more were given. At 11 a. m. the blood sugar was .202 per cent, at 11:45 .129 per cent. At 1 p. m. it was .056 per cent. It was now recognized that a state of hypoglycemia was being reached. The acetone odor had practically disappeared from the breath and the urine was sugar free, but acetone was still present. The patient was given 10 grams of glucose by mouth. At 4 p. m. the blood sugar was .039 per cent. He was again given 10 grams of glucose by mouth and, because of the tendency to vomit, 10 grams by rectum. Soon after this the patient fell asleep and was not easily aroused. At midnight, however, he talked and seemed more normal. From then on he steadily improved. Further records are unnecessary to illustrate the points to be brought out by this report.

It should be stated that the parents of this patient were and are fully aware of the difficulty doctors are having in recognizing the difference between the symptoms of an overdose of insulin and those of diabetic coma. They are entirely satisfied with the co-operation the physicians gave and understand why they failed to recognize the symptoms that developed.

COMMENT

What does this case teach us? Obviously in the first place that the manifestations of diabetic coma and those of an overdose of in-

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sulin may be mistaken for each other, and particularly that the manifestations of diabetic coma may be attributed to an overdose of insulin. Had this patient died, which he might easily have done, insulin would have been regarded by many as the cause of his death.

The symptoms or the suspicions of coma should always be considered as serious and should constitute the necessity for careful consideration. The telephone might fail to carry sufficient data with which to make a trustworthy diagnosis of diabetic coma or hyperinsulemia, while the picture presented to the trained eye could hardly be misunderstood.

The symptoms of an overdose of insulin are very characteristic and marked. When once seen, they are easy of interpretation, particularly when it is known that insulin has been administered. Fortunately these symptoms are always associated with absence of sugar in the urine. This occurs sooner or later, depending upon whether the urine preceding the attack has been voided or not. Hypoglycemia is also a constant finding. Both of these points are easily determined and one is probably of as much value as the other.

It should be remembered that glucose is necessary for the proper action of insulin. If hyperinsulemia under certain conditions should continue long enough for the insulin to utilize all the available glucose, acetone might be detected in the breath and in the urine. In the treatment of diabetic coma with insulin it is possible for the sugar to disappear from the urine, for the hyperglycemia to be completely overcome, and for the amount of insulin injected to be sufficient to induce the symptoms of hyperinsulemia before the acetone leaves the breath and the urine.

It should be remembered further that a diabetic on starvation treatment may develop symptoms of coma, and it might easily happen that the patient be sugar free and acetone be present in large amounts in the urine and breath.

The differentiation of hyperinsulemia does not offer the clinical bedside difficulties of acidosis and alkalosis—but all these conditions are very easy of interpretation when the similarity of symptoms is understood because the basic chemical principles are very clear. It is these principles that should guide us in our therapy.

The symptoms of hyperinsulemia are now so well known they need not be repeated here* excepting to call attention to the difference in clinical picture in infants from that of older children and adults. In young infants the subjective symptoms are absent because they can-

not announce them and the younger the infant, the less likely are we to observe all the objective symptoms, for example, the unsteady gait. However, the drowsy appearance, the desire to sleep and to be left alone; in general the change from the much awake appearance and actions of the diabetic infant on proper insulin dosage should at once lead to suspicion of over-dosage. The presence of sugar in the urine and particularly the absence of acetone in the breath and urine furnish the crucial points in the diagnosis of hyperinsulemia.

There is more danger in regarding a case of coma as one of hyperinsulemia than the reverse.

It may be well to call attention to the manner in which diabetes developed in this infant. We have the history of a well baby who contracted a cold—an upper respiratory infection of moderate degree. A few days later he developed marked thirst and glycosuria. The glycosuria continued, but for quite a long period the blood sugar remained low and as we determined, it was uninfluenced by a dose of insulin, in other words, reacting as most of our renal glycosuria cases have. In the course of a few more days, however, marked hyperglycemia developed and required considerable insulin to overcome it. All cases of suspected renal glycosuria should be watched carefully for long periods of time before definitely placing them on an unlimited diet. One or two normal blood sugar records are not sufficient to establish a diagnosis of renal glycosuria.

SYMBLEPHARON RELIEVED BY THE USE OF WAX MOULD AND THIN SKIN GRAFTS*

REPORT OF TWO CASES

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The records of two cases of plastic surgery in both of which the lids were adherent to the globe will be reported. In one the right lower lid was drawn up and attached to the sclera and cornea. In the second case, the entire upper lid became attached to the globe following a Blassius operation for the restoration of the lid.

HISTORY

Case 1. Male, aged 25, struck in right eye by piece of hot rivet October 26, 1920. Following the accident, the eye became painful and was under treatment for some time. At present the patient complains of a pulling sensation in the eye and a double vision, made worse on looking to the right.

EXAMINATION

The inner half of the lower lid was drawn upward and attached to the sclera, inner third of cornea and inner third of the upper lid margin. Nearly one-

*For a complete description of the symptomatology of over-insulin dosage and of the comparative effects of insulin in infants, older children and adults the reader is referred to the paper by Cowie and Parsons in the Transactions of the American Pediatric Society, 1923.

*Read at Annual Meeting, M. S. M. S., Grand Rapids, Sept., 1923.

half of the palpebral fissure was obliterated. The upper lid was attached to the globe throughout its inner one third. The eye was slightly convergent in the primary position. There was no movement of the globe on looking outward and only a slight movement on looking up or down. Vision, O. D. 6/30, O. S. 6/5.

The margin of the lower lid could be discerned running vertically from the middle of the lid as far upward as the corneal limbus at two. From this point it ran horizontally, joining the upper lid at the junction of the inner and middle third.

OPERATION

May 6, 1923. An incision was made along the course of the lower lid margin to the point of union

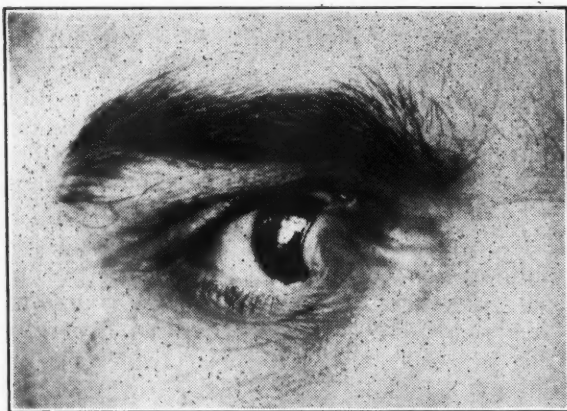


Figure I.
Photograph of Case No. 1 before operation.

to the upper lid. From that point it was continued just below the line of the upper lid margin well into the inner canthus. The mass was dissected from the cornea, sclera and tendon of the internal rectus muscle. After separating the lids from the globe, the scar tissue was carefully dissected out and the lids reduced in thickness to normal. The dissection was carried far back in the fornix both above and below. The lower lid fell back in place, although it seemed somewhat redundant at the time.

A wax mould was inserted over the globe, the mould somewhat elliptical in shape with an opening over the cornea was covered with a thin skin graft taken from the inner side of the right arm. The lids were sutured together and the ordinary dressing applied.

The eye was dressed on the eighth day, the wax mould was removed and not replaced. There was very little discharge and the graft had "taken" throughout the denuded area. The redundant portions of the graft were cut away and the eye left open. The treatment consisted of irrigation with boric solution and instillation of a 25 per cent solution of Argylol three times daily.



Figure II.
Photograph of Case No. 1 after operation showing position of lid and rotation of globe to right.

At the time of the first dressing, the excursion of the eyeball was normal, the diplopia had disappeared, and the pulling sensation of the globe was relieved. The result is shown in Fig. II. The appearance of the eye continued to improve until it became quite normal, except for the opacity on the cornea, and a slight attachment near the upper caruncle. There is no epiphora and whether the drainage of tears takes place through the upper or lower canaliculus I am unable to say, as the punctum in the lower lid was preserved. There was a discharge of degenerated epithelium for some time following the operation, but this was relieved by wiping the grafted area with a pledget of cotton saturated in alcohol. It is now four months since the time of the operation and there is no tendency for a return of the adhesion. The result is at least very promising.

HISTORY

Case 2. Male, aged 26. Fourteen years ago, the right upper lid was injured as a result of a dog bite. A plastic operation performed elsewhere for the restoration of the upper lid, resulted in a total attachment with obliteration of the upper fornix. The patient was not able to close the eye. The eye was irritable at times, but never very painful. The vision had been impaired since the time of the operation.

EXAMINATION

The entire lid was adherent to the globe, the cornea was dry and infiltrated throughout. The movement of the eyeball limited in all directions. Vision L. P.

OPERATION

June 6, 1923. The upper lid was dissected free and a thin graft of skin over a wax mould was inserted under the lids. Practically the same details as described in case one were carried out. Unfortunately, no photograph of this case was made before operation, but the immediate result is shown in Figure III. A deep fornix was obtained, except at the extreme inner and outer angles, where it was only about one-half its normal depth. The adhesion could be seen only after raising the lid and did not



Figure III.
Photograph of Case No. 2 one month after time of operation.

impair the movement of the globe, nor prevent the patient from closing the eye. The corneal epithelium improved in appearance, but the deep opacity persists. As only three and a half months have elapsed since the time of the operation, it may be too early to predict the final outcome, but at the present time no signs of recurrence are present.

DISCUSSION

All cases of symblepharon may be classified surgically into one or the other of two groups,

depending on whether or not the exposed surface on the globe left after dividing the attachment can be covered with conjunctival flaps. Those cases in which a flap can be secured are more easily corrected than those in which this procedure is not possible.

It is not necessary to review the various surgical procedures that have been suggested for the relief of symblepharon. It is also needless to say the remote results obtained in cases falling in the second group—those in which conjunctival flaps cannot be secured—have not until recently been any too good. The results obtained in those two cases are recorded to illustrate the method of procedure that has given the best average results in the hands of the author and for which he claims no originality.

The gratifying thing about the use of thin grafts in the correction of symblepharon is that if the scar tissue is all removed, and the denuded area completely covered, there is but slight tendency for the recurrence of the adhesions.

The use of vasolin in cutting the grafts as first advocated by the author in 1906, is still used in every instance when a thin graft is required and experience has proved its use greatly facilitates the ease of obtaining large and very thin sections of the skin.

VITAMINS AND THE BABY*

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Prior to the beginning of the present century nutritional needs were expressed in terms of food elements, calories, digestibility and utilizability. If an individual had enough protein, fats, carbohydrates, mineral salts and water in his diet that were digestible and suitable for the human economy his nutrition was considered adequately covered. While it was generally appreciated that there were certain diseases, notably scurvy, beri beri and rickets, that were due to an inadequate diet, and that could be cured by a change of diet, precise knowledge as to the real nature and cause of these diseases was lacking, and was not considered of fundamental importance, but rather as an isolated phenomenon of restricted interest.

The last two decades, and especially the last decade, have added to this basic knowledge a new chapter, the development of which is as fascinating as any romance, and the practical importance of which may rank it among the most valuable and far-reaching achievements of practical science. This development occurred along two, more or less, similar lines.

It was found, first, that proteins were not alike in importance in nutrition; that among the eighteen or more amino acids that are the end products of protein digestion, several that are indispensable to growth and proper nutrition did not occur in the digestion of certain proteins. In other words, young animals fed on an adequate amount of all the food elements, failed to grow if the protein was of a kind that did not yield these indispensable amino acids, and that the same diet failed to maintain a good state of nutrition in older animals.

The second line of development, which may perhaps in the end modify some of the conclusions of the first, is the one that concerns us here. It was found that an adequate supply of all the food elements in a purified form with an ample amount of protein yielding the indispensable amino acids was still inadequate to attain growth and maintain a proper state of nutrition in experimental animals unless the food contained certain substances, now called vitamins. The term "vitamine" was introduced by Casimir Funk in 1911, because he believed, from their chemical behavior, that they belonged to the group of amines. Since this seems not to be the case, it is probably best to follow the suggestion of Drummond to call them vitamins, dropping the final "e".

Of these vitamins, at least three are quite definitely known, possibly a fourth, though their exact nature is as yet undetermined. The present evidence points to the conclusion that each of the vitamins is essential to proper growth and nutrition. Each also is apparently specific, in that, with the others well represented in the diet, its absence, or adequate insufficiency, will cause a definite clinical picture, a so-called deficiency disease that is sharply characterized from all the others, and that can be cured or prevented by the inclusion of that vitamin in the diet and by no other one.

That certain grave and widespread diseases could be cured by a change of diet alone has long been known. As early as 1795 the British navy prescribed lime juice to all sailors to cure and to prevent scurvy. For many years the well nigh miraculous cure of infantile scurvy by the simple addition of orange juice to any diet has been well known. Over forty years ago Takagi Kanehiro, Director General of the Japanese navy, reduced the usual incidence of beri beri among sailors from an average of 30 per cent to 5 per cent in a nine months' experimental cruise of one ship, by simply adopting a more occidental diet. The addition of more meat, vegetables and condensed milk soon practically eradicated the disease from the Japanese navy. Rickets has long been treated by supplying a deficiency in the diet by the use of codliver oil. Some seventeen years ago Czerny described an eye disease oc-

*Read before the Pediatric Section, Michigan State Medical Society meeting, Grand Rapids, Sept. 13, 1923.

curing in infants fed for some time on an almost exclusively starch diet, and cured it by the use of whole milk, that is, a diet rich in butter fat and protein. There can be little doubt that this represents a deficiency disease that is the human analogy of the eye disease produced in experimental animals, and cured by the addition of butter fat, in a brilliant series of animal experiments by McCollum and his co-workers, then at Madison. In each of these four conditions there was an empirically known lack of something in the diet, and an empirically known cure and preventative. It is in the laboratory that this empirical knowledge has, in the last ten years, been changed to precise scientific knowledge. It would be a grateful task to trace the development through animal experimentation of this newer knowledge, especially since so much of it has been done in this country, but it is a long story. Not even the names of the long list of patient and careful and brilliant workers can be enumerated here. To one unfamiliar with this engrossing subject I can promise no greater treat than to read McCollum's "Newer Knowledge of Nutrition," second edition, 1922, published by MacMillan, though it may be necessary to make a little allowance for enthusiasm.

The three known vitamins have been designated by the three first letters of the alphabet, A, B and C. It seems probable that the anti-rachitic factor will take its place as D, though its relation to rickets seems more complex than does that of the others.

Vitamin A, also called fat soluble A, or anti-ophthalmic vitamin, was originally called the "growth promoting factor" because without it an otherwise adequate diet failed to secure normal growth in young white rats and other animals. This term is no longer used because all known vitamins are apparently essential to growth and normal nutrition. If fat soluble A is absent from the diet to a sufficient degree, the young white rat will fail to grow, will be unable to reproduce normally, and has relatively a very short span of life. In addition to this, it develops an eye disease called xerophthalmia, or keratomalacia, which if unchecked by the inclusion in the diet of the specific vitamin, leads to edema of the lids, ulceration and necrosis of the cornea, and blindness. The addition of 5 per cent butter fat to the diet rapidly restores the animal to a normal condition if the disease has not progressed too far.

This vitamin is so widely distributed in our common foods, apparently so little of it is needed and that need is so well covered, especially in infancy, that grosser manifestations of its absence are rarely seen in man. I have already alluded to Czerny's observations. Bloch has described fifty cases occurring in the vicinity of Copenhagen in infants that were fed

on skimmed milk that was both boiled and pasteurized. In this country few of us have ever seen human xerophthalmia. The greater importance of this vitamin to the human being, and especially to the infant, would seem to consist in its relation to under development and mal-nourishment, which might be the only symptoms of a relative deficiency. If one may reason by analogy from experimental animals, a procedure by no means wholly safe, the role of this vitamin in the infant's diet should be second to none.

Fat soluble A, as its name implies, is soluble in fat, and is practically thermo-stable. It is found in greatest abundance in butter fat, therefore in milk, cream and butter; in egg yolk and thin leafy vegetables and grasses; in glandular organs, such as the liver and kidney; and is said to be two hundred times as abundant in codliver oil as in butter. Other animal fats contain very little, vegetable oils practically none. It is poorly represented in lean meats, tubers, except perhaps sweet potatoes, and some grains. How much occurs in skimmed milk is in dispute, though McCollum estimated it at approximately one-half that of whole milk. It is interesting here to note that while fats and carbohydrates are practically isodynamic as foodstuffs, it has always seemed empirically that fats contributed something to infant nutrition that could not be furnished by the carbohydrates.

Water soluble B, or Antineuritic vitamin, is soluble in water and is also thermo-stable. When pigeons and other animals are fed for two or three weeks on polished rice alone they become profoundly sick, and show as the chief gross objective symptoms a rapidly developing and finally complete paralysis terminating in death. If the diet is changed to whole rice, or if the part discarded in polishing is added to the diet, either as such or as an extract, the pigeon, if not moribund, will rapidly return to normal. If an extract of rice polishings is injected hypodermically a pigeon that was practically unable to move can in an hour or so fly away.

This experimental disease, of which the polyneuritis is only a part, is apparently identical with that observed for centuries in the human disease beri beri, so common and so destructive in Japan, southern China, India, the Malay Peninsula and other countries of the orient where rice is the staple, often almost the only article of diet. For esthetic reasons and because of its better keeping qualities rice is polished in nearly all countries, that is, the hull and germ are removed. If the diet consists almost wholly of polished rice and perhaps fish, the antineuritic vitamin which is well represented in the germ is nearly absent from the diet and beri beri results. Beri beri occurs to-

day practically only among those poor people of the orient whose diet consists almost wholly of polished rice and fish. Of peculiar interest, from the pediatric standpoint, is its relation to infant mortality in the Philippine Islands. Professor Jose Albert, head of the Department of Pediatrics of the University of the Philippines, has told me that the infant mortality of these islands has in a very few years been reduced from 49 per cent to 18 per cent since the discovery of the cause and treatment of beri beri. Mothers can apparently secrete a vitamin only if it is present in the diet and the mothers of these babies lived on a diet so deficient in water soluble B that their milk was inadequate to maintain life in the baby, though the mothers, themselves, might show no marked evidence of the disease. It was a strange thing to hear him say: "With us mother's milk has been a curse, not a blessing." I confess to a creepy feeling when he told me further that today baby after baby within ten hours of what was once certain death, struggling for breath with a dilated heart and general paralysis, was improved visibly from one hour to the next, and in a few hours was out of all danger, by the simple hour oral administration of large doses of *tiggi-tiggi*, an extract of rice polishings. Is there any drug in the whole pharmacopea that can equal the record of this discarded food principle? What a triumph for animal experimentation! One thinks of anti-vivisectionists, and perhaps of Christian Scientists, and one realizes the limitations of even the educated human mind.

With us beri beri does not exist except under conditions of diet that should not and under even approximately normal conditions cannot exist. White rats, pigeons, chickens and other animals do not grow and maintain a proper state of nutrition if the amount of water soluble B is below the limit of safety. Just how true this is of the human being is less sharply defined, but it is safer to assume that the analogy holds, and that proper safeguards must be used to prevent such under nourishment.

Water soluble B is found most abundantly in yeast, milk, leafy vegetables, such as cabbage, spinach, chard, etc.; in whole grains such as wheat, rye, oats, barley, and rice; in citrus and many other fruits; in tubers, legumes, eggs and glandular organs; to a much less extent in meat, and is apparently quite absent from fats. It is, therefore, widely distributed in ample amounts in our common articles of diet. Since it is water soluble and thermo-stabile, it is not appreciably destroyed in cooking, and is found largely in the water in which vegetables are cooked. Again we have a scientific explanation for an old crude empirical idea that vegetables should be cooked in little water, and that

the latter should be incorporated in the final dish, or made into soup.

Vitamin C, the Antiscorbutic vitamin, has concerned us more in this country for many years, and brings us more immediately to the baby. It is water soluble, and unlike A and B it is influenced greatly by heat, and apparently by ageing under certain conditions. The guinea pig is readily susceptible to it, and can be rendered scorbutic in a few weeks on a diet of grains, butter fat and even some milks, i. e., on a diet ample in A and B, but deficient in C, and can be cured rapidly with a little orange juice. It is of peculiar interest that the white rat, which is very susceptible to deprivation of any of the other known vitamins, has wholly resisted attempts to render it scorbutic. The same is true of at least one prairie dog. The rat is apparently able to synthesize C, because on a scorbutic diet the liver has been shown to contain this vitamin.

Human scurvy is now almost unknown beyond the period of infancy, except when war or accident deprives an isolated group of men, or a population, of fresh vegetables, fruits and milk. I have seen scurvy only once in an older child that was paralyzed, and lived under the worst possible dietetic conditions. Even in infancy it is so rare that I see only one or two well developed cases a year. The purple, swollen, spongy, bleeding gums wherever teeth are present, or about to erupt, and there only; the excruciatingly tender swelling above or below, not of the joint, with its accompanying pseudo-paralysis; the cutaneous, post-ocular and vesical hemorrhages; the occasional epiphyseal separation, are familiar to all of us, as is also the immediate response to orange juice, a reaction second in speed only to that of *tiggi-tiggi* in beri beri.

As before, it must be emphasized that it is not only the well developed disease that should hold our practical interest, but even more irritability, cardiac hypertrophy, the presence of petechiae, etc., especially pointed out by Alfred Hess, as "Subacute Scurvy," that may result from a relative deficiency of the vitamin. It is hard to estimate the importance and incidence of this "Subacute Scurvy," for today the use of orange juice as an antiscorbutic is almost universal, but again the only safe plan is to consider it vital and to act accordingly.

Scurvy rarely occurs in the breast fed infant, and when it does one can probably safely assume that the mother's diet is deficient in C containing foods.

Water soluble C occurs most abundantly and most usefully in all citrus fruits, oranges, lemons, limes and grape fruit; in tomatoes, and only less abundantly in such raw vegetables as cabbage, lettuce, potatoes, onions, peas, spinach, etc.; and in milk. Prolonged heating

destroys it; cooking for a few minutes has relatively less effect. Dutcher, and Hess even earlier, offers the explanation that the process of destruction is one of oxidation, as is shown by the greater effect when milk, for example, is stirred or shaken, and so more exposed to oxygen. It is probably for this reason that short boiling, or even rapid evaporation to dryness and then sealing, is less destructive than is pasteurization at a low temperature for a longer time, as shown clinically by Alfred He. This would offer also an explanation for the unfavorable effect upon the vitamin of ageing, especially with exposure; and for the persistence of antiscorbutic potency in canned tomatoes, as pointed out also by Hess.

The relation of milk to scurvy is of especial interest. The diet of the omnivorous human is variable enough to make it quite possible for the limit of safety in antiscorbutic properties to be exceeded. That this rarely happens is well known. That the milk of the herbivorous cow should be equally rich, or even more so, has both experimental and clinical evidence to support it. But cow's milk, unlike human milk, is a very variable substance by the time it reaches the baby. In the colder months cows do not feed on grass in the temperate zones, and hay, silage and grains do not yield as much antiscorbutic vitamin as does the former. Cow's milk further is usually 24 to 48 hours old when consumed by the baby, and this ageing, together with boiling or pasteurization, or both, to which it is commonly submitted, reduces its antiscorbutic properties still more. The amount of cow's milk that is necessary to protect a guinea pig on a scorbutic diet is quite definitely known through experimentation. Our knowledge concerning the baby is necessarily clinical, and so cruder and less precise. In general one might formulate or present knowledge as follows: Cow's milk from grazing animals, that is used within 12 to 24 hours, and is not heated, when used in such amounts as are commonly employed in infant feeding probably amply protects practically all babies against scurvy. Winter milk, milk that is boiled for a few minutes or pasteurized; that is over 24 hours old, and dried milk, will under like conditions protect most babies, but the danger of scurvy is great enough to make it advisable to supply some additional antiscorbutic. There is good clinical evidence that there is an individual factor in susceptibility to scurvy, and this, together with the harmlessness of fruit and vegetable juices would make it seem practically an obvious indication that all artificially fed babies, and for that matter, all breast fed babies, should be protected by such juices after the second or third month. After all the great producers of infantile scurvy are the patented baby foods that are used without fresh milk,

and without proper medical advice. When these are used an additional antiscorbutic becomes imperative.

The greatest interest now centers in rickets and its relation to the subject under discussion. For many years our knowledge of this disease that afflicts more than half of the human race was more or less stationary and our interest in it sort of conventional. In the last five years, and especially in the last two years, the etiology and nature of rickets has again taken the foremost place in pediatric interest and today one has the feeling that the problem is being solved right now before our very eyes. Three or four rival camps are approaching the subject by different routes and the present indications are that the various theories and discrepancies are about to be harmonized. Whether there will ultimately emerge an antirachitic vitamin that will take its place as D can hardly yet be told, since we know so little of the real nature and mode of action of these factors in nutrition. The evidence is not as strong that there is a single factor in rickets as it is in the other deficiency diseases, and yet there may be other analogous factors in these latter that are less evident than they are in rickets, the metabolism of which is so much better known, and the specific cure of which can be accomplished in several superficially, apparently widely different ways. We know of rickets now, that its prevention depends upon the presence in the food of a sufficient amount of calcium and phosphorus, and that these must bear a certain relation to one another, and of an organic factor that is most abundant in codliver oil, apparently also in egg yolk, as has just been shown, and in human milk, and much less so in cow's milk as used, and in other foods. It has just been demonstrated in a convincing experiment by Park, Guy & Powers, that this organic factor has the power in experimental animals to so regulate the calcium and phosphorus metabolism that they approach that of the healthy non-rachitic animal, that is, the deficient amount of calcium or of phosphorus, as the case may be, is raised to a more normal amount in the blood serum by codliver oil. It is well known that rickets can be prevented and cured by direct exposure to sunlight, to ultra-violet rays, and to other forms of radiant energy. Under primitive conditions sunlight apparently protects the baby against rickets. Under present conditions, where such primitive measures do not prevail, are perhaps even not feasible in colder climates, codliver oil seems to take the place of sunlight in protecting the individual against rickets even in the presence of an otherwise faulty diet and a faulty environment. To quote from Park, Guy & Powers:

"The similarity between the action of codliver oil and that of radiant energy in rickets

is so close that a connection must exist between them. So far as the calcium and phosphorus metabolism of the body are concerned, codliver oil seems to be a substitute for radiant energy. It will be most interesting to see if, in the near future, a relation between codliver oil and radiant energy will not be established of such nature that their effects will be explicable on a single basis." It might be added that it will probably be found that the favorable and apparently wholly similar effect of heliotherapy and codliver oil on other conditions, such as tuberculosis, malnutrition and chronic disorders will make it apparent that the effect on rickets is only a part of a more general effect upon metabolism of these two agents.

To come more immediately to our subject—how does this new knowledge affect us in our practical methods of feeding babies, and in our general attitude toward nutrition in early childhood? Very evidently only to emphasize and to make more tangible and rational the procedures we followed long before vitamins were baptised in 1911. We have always known that milk was essential in early life, that the butter fat was of peculiar value, and that a certain amount of sugar was necessary as fuel. We have all used orange juice with a clear cut idea as to its indications. We have long known that codliver oil will prevent and cure rickets, and have used it for that purpose. It is of peculiar interest here that cod liver oil was used by Dutch fishermen for rickets more than a hundred years ago, and that in practically every center of medical influence where it became popular, it became so as the result of the experience of laymen. For many years, too, we have known, except perhaps in Boston, that vegetables should form a part of the infant's diet in the second half year of life, and have been particular to have the water in which they were cooked made a part of the final dish. We have always known, too, whatever our ideas might be as to the essential etiology of rickets, that it was commonest in non-tropical, that is, colder climates, with more indoor life, and that sunlight was of supreme importance as a preventative. We have always taught, too, that the pregnant and nursing mother should drink milk freely, and that fruit, vegetables and cereals should form an important part of her diet. Here it is true our ideas were hazy and inadequate, and this new knowledge has given us clear cut indications and has made us more insistent upon their fulfillment. If the mother can secrete vitamins in her milk only if they are found in her food, the advice as to her diet becomes not only clear, but imperative. While in no way detracting from the supreme interest and importance of this new knowledge, I merely want to point out the fact that here, as in so many other instances, groping em-

piricism has led the way, and left to science the explanation and the clearer indication.

I emphasize this point as a sort of antidote to the over enthusiasm that is apt to follow any new and important discovery in medicine. I need only mention uric acid, autointoxication, focal infections, the tonsil, the teeth, opsonins, vaccines, endocrinology—the list might be made a long one. In the present instance we have the anomalous complication of the brilliant leading non-medical investigator in this field whose practical knowledge is only of the experimental animal leaving the calm demonstrability of his laboratory and entering the clinical arena as a sort of inspired teacher and propagandist. If this statement seems too severe I would quote from McCollum's "Newer Knowledge of Nutrition," page 318, second edition: "Milk which is fed as a substitute for breast feeding is usually modified by dilution and the addition of cereal water, or proprietary foods having a cereal basis. There can be no question that the modern practice of modifying milks for infant feeding represents one of the most gigantic and tragic examples of persistent blundering of which civilized man is guilty. Fortunately, the time seems near at hand when any manipulations to which cow's milk is subjected for feeding infants will be carried out with knowledge of what is being done, and the mistake of concocting mixtures which are entirely unsuited for the nutrition of the growing child be avoided." When did the cobbler ever leave his last to become an art critic with a greater vengeance! The ipse dixit is not even fortified by an explanation! The "drink more milk, a quart or more a day" slogan that forms so prominent a part of the commercial journals of the dairy industry with which we are now being flooded, has its origin in the same source. The pediatrician has long known that many babies, and older children, do better with *less* than with *more* milk. It would be an ungrateful task to say these things, were it not for the fact that to the army of nutrition workers, to the lay medical writers, and to all those who are "most vocal" in their efforts at popular medical education, there is now a sort of fifth gospel, the gospel of McCollum. Nowhere is the present tendency to accept the laboratory dictum as inspired and the clinical experience of the ages, the real backbone of medicine, as something less substantial, than in this instance. The wise scientist gets his inspiration from theory, but scientific conclusions must rest on demonstration.

Furthermore, reasoning by analogy is always precarious, especially when the chapter is not yet concluded. One cannot help but think of the young white rat and of that lone prairie dog whom all the wiles of the scientist have been unable to scorbutize, and who nevertheless syn-

thesize the antiscorbutic vitamin. Is the baby a young white rat, or perchance a prairie dog, or a guinea pig, or a pigeon, in its relation to vitamins? Can the investigator, by his experiment on animals, or the clinician by his observations on babies, best solve this problem? The answer is evident, and the wise clinician is willing to bide his time, remembering with Hippocrates that in medicine "Art is long and time is fleeting, and judgment difficult." One might even, not at all unkindly, point out the fact that in the previous edition of this book the author, quite unexpectedly, advanced the theory that scurvy was not a deficiency disease at all, but an infection of the walls of the coecum, due to impacted feces, and that it could be cured by catharsis! Now he is quite willing to accept what clinicians have long taught, that scurvy is a deficiency disease. The court has reversed itself times without number in the history of medicine and will probably continue to do so to the end of the chapter.

Again, the amount of vitamin necessary to afford ample protection in the human is quite uncertain, is apparently a small one, is drawn from many sources, and the individual factor may play a larger part than we now know. It was indeed one of the most difficult things to elaborate an experimental diet vitamin free enough to exclude the presence of some lurking source of vitamin, as for example, impure milk sugar, that would ultimately nullify the conclusions arrived at. Why decry the use of milled flours or polished rice when they alone can be handled adequately commercially, and alone seem to appeal to the civilized taste; or filled milk for cooking purposes only and so advertised, just because they do not contain butter fat, though half of vitamin A is said by the same authority to remain in the skimmed milk; or potatoes which when cooked contain almost no vitamin? Meat, cereals and potatoes are just as important as sources of growth, repair, energy and fuel as are milk, fruit, leafy vegetables, and the glandular organs, as sources of vitamin and all clinical evidence, which alone is ultimately dependable, points to the fact that so little of the latter is necessary that its deficiency is rarely felt in an occidental diet. After all, the important thing is not to eliminate things so much as to be sure that certain protective foods such as milk, fruit and leafy vegetables are included.

Two other dicta might at least be debatable rather than offered as an *ipse dixit*. We are told that dentists are all wrong in their interpretation of the cause of dental caries, the prevalence of which is one of the ghastly realities of our civilization, that the real cause lies in the child's food. We all know the effect of rickets on the second dentition, but are erosions and dystrophies due to rickets, synomy-

mous with dental caries? Why should I have perfect teeth for twenty years, bad teeth in the fourth decade, and very little trouble since then with at all times a diet that was amply protective? Dentistry, too, has had its share of brilliant observers and they still talk of the "clean tooth that will not decay" and of bacteria, and of the reaction of saliva, and of soft cooked foods, etc. Would it not be more effective in our present state of knowledge to practice wise old Ben Franklin's rule always "to speak with modest diffidence," rather than to cram a conclusion that can only be accepted when it has been borne out by *clinical* experience? Suggestion is always more convincing than affirmation, and propaganda tends to defeat itself.

The prevailing malnutrition further, of which dental caries is accepted as only a part, is laid almost wholly at the door of wrong food. Those of us who have anxiously watched our latter day civilization panting in its effort to keep up with the railroads, the steamboats, the street cars, the airplanes, the newspapers, the movies, the war, the fashions, and especially with those two greatest disturbers of the simple life—the telephone and the auto, and have seen the rising generation trampled under foot in this scrimmage and emerge nervous and undernourished, feel that there are other factors of a psychological nature of equal or indeed greater importance. Do we not every day see thin, nervous, under nourished children in good homes, whose mothers lie awake nights planning a diet according to McCollum, only to see the object of their overgreat solicitude frustrated by the child's refusal to eat? *Anorexia*, call it *nervosa*, if you will, to me is one of the most potent factors in modern malnutrition of children. And when these children enter the "malnutrition clinic" they gain, not so much because they eat more cabbage and drink more milk, as because their aversion to food, which is on a psychological basis, leaves them as they quit their solitude and solicitude and become rival members of a herd. The lack of simple gregariousness in the small family, and especially in the "one child family," is a factor in my experience of great importance in our problem of nutrition. The value of enforced rest upon nutrition supports the idea of a psychological, or nervous, basis of much of our under nourishment in children. I find it difficult to believe that vitamin deficiency is the fundamental, determining cause in this country, except in the poorest and most ignorant strata.

It would hardly seem necessary to say a word about the patented and proprietary preparations or to prove their inefficiency as has been done by Julius Hess and others. Surely no intelligent physician could be misled by the yeast propaganda, the current illustration that Barnum was right. What about Metagen (Parke,

Davis & Co.) and similar preparations? Is it not an insult to our intelligence that our natural allies should claim that these elusive substances that are of wholly unknown composition can be incorporated in a tablet and used to better advantage than they can in that natural state in which they occur on all sides? Are they not even a source of danger in that one might consider them all sufficient and so perhaps disregard the wise precaution to use orange juice and codliver oil?

In conclusion, I might say that we will probably continue to feed babies much as we have done. We will give somewhere between an ounce and a half and two ounces of milk to the pound of healthy baby; if we want to boil the milk, as many of us do for good reasons, or pasteurize it, for other reasons, we need not worry according to our present state of knowledge about that mystic something called "devitalization" when applied to milk and to milk alone of all cooked foods. A and B are safe in boiled milk, and there is no evidence that the antirachitic factor is influenced by heat. If some antiscorbutic is destroyed by heating we know, as shown by Chick and Hume, that an ounce of orange juice will give us as much of this as two quarts of milk, and we act accordingly. We shall also probably always prefer fresh orange juice to canned tomato juice. We shall probably feel more than ever inclined to give some codliver oil to nearly every baby. Possibly egg yolk will now be used to a greater extent in its place, especially if the oil is refused. If so, the egg, after being buffeted around for years, will come into its own again, the henneries will flourish, the cod fisheries may decline, and I am afraid the baby may suffer for a time. We will continue to give vegetable soup for even better reasons than we knew before. We shall also, if we are wise, continue to add cereals to our feedings early as effective diluents, and after the first few months as porridges for their food value, because the pediatrician well knows that cereals add something to the baby's nutrition that sugars and even vitamins cannot, and he will probably always prefer them milled for good reasons.

CHRISTIAN SCIENCE

We wondered when we read the following extract in the Washington Post, whether an olive branch was being tendered. It is part of an address delivered by Judge F. C. Hill:

"There is a very erroneous and un-Christian belief," said Judge Hill, "ignorantly entertained by many concerning the attitude of Christian Scientists toward the experiences called sickness and death. The opinion is often erroneously entertained that they are unmindful of these distressing human conditions and that they offer no relief to those who unfortunately suffer from these beliefs.

"Nothing could be further from the truth. They freely admit that these conditions call for the highest degree of human compassion, and they are proving their usefulness and competency by supplying humanitarian compassion in a most effectual Christian manner. They are healing sickness, sorrow and dire distress in the most effectual way; in fact, they are doing it in the only way that holds out a ray or promise for the final deliverance from these evils. They freely admit that many of those who are engaged in other modes of healing are performing noble services and are to be commended for the service and for their deeds of deep devotion in trying to relieve human suffering. They further admit that the field for service is a large one and that there should be no conflict between those who in true sincerity engage in the practice of the 'healing.'

"Likewise, there should be due consideration and real Christian charity for all those who entertain opposing views; and Christian Scientists cheerfully accord to every individual the full liberty of conscience in determining the particular mode or system which from his viewpoint will best promote his happiness. Christian Scientists, of course, do not agree with those who adopt the theory that there is something wrong with matter, and therefore something material must be administered to restore harmonious action. They believe that the intelligent and right way is to ascertain the offending mental cause and to remove it. They know that the procuring cause is mental, and they seek to correct that wrong mental condition by substituting therefor the right mental status.

"Now this is a safe, orderly procedure and produces gratifying results. They do not lay one straw in the way of those who hold differing opinions, and they freely accord to them the full right to drug, cut, pull, beat and pound the poor human body and do the hundred and one other things which according to their material theories are necessary in order to arouse this body to intelligent, normal activity, providing always the one possessing that body consents to and desires such treatment. Would it seem strange that Christian Scientists should expect others to exercise the same courtesy toward them, or that they should expect to be allowed the same freedom of choice?"

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Report Malpractice Threats Immediately to Doctor F. B. Tibbals, 1212 Kresge Building, Detroit, Mich.

Editorials

TONSILLECTOMY

Our good friend, Dr. Bulson, editor of the Indiana State Medical Journal, has summarized in an editorial the indications and contraindications for tonsillectomy. It is such a clear-cut presentment that we are publishing this editorial for the benefit of our members:

If we are to judge from the number of tonsil operations that are performed in every community, proportioned to its size, we naturally would think that every person and especially every child is doomed to be subjected to tonsillectomy. As a matter of fact, some of the most trustworthy clinicians, and especially some of the leaders in laryngological work, find definite indications and contraindications for tonsillectomy, and every physician, particularly every physician in general practice who in the vast majority of instances is called upon to offer advice as to whether tonsillectomy is indicated or not, should be guided by the opinion of those who have given the subject the most careful consideration and analysis.

Sluder, recognized as an author and teacher, and the advocate of an operation commonly termed the "Sluder" operation, has just published a book on tonsillectomy in which is discussed in a very practical way the indications and contraindications for tonsillectomy, together with the results following

such an operation when properly performed. In his judgment hypertrophied tonsils that obstruct breathing offer clearly evident reason for tonsillectomy, and the prognosis obviously is 100 per cent. Likewise tonsils that are the seat of recurrent suppurative (follicular) tonsillitis should be enucleated, the prognosis being excellent, as the removal of the tonsils will be found to prevent the tonsillitis almost uniformly. However, attention is called to the part played by the lingual tonsil in the attacks. The patient probably will continue to have sore throats in the form of a follicular lingual tonsillitis, but these attacks are less frequent and not so hard on the patient as the attacks of faucial tonsillitis.

In the recurrent general sore throat, characterized by pain, general redness, with sometimes a little swelling which involves a wider area than the tonsil region, and often involving the larynx, nasopharynx, and nose, in which the tonsil takes no more part than does the surrounding tissue, tonsillectomy rarely benefits, and tonsillectomy for the relief of these attacks is usually a disappointment for both the patient and the surgeon. Some physicians are so extravagant in their praise for tonsillectomy that they claim it will help all sore throats, whereas it is a matter of observation of those of large clinical experience that such is not the case.

We are of the opinion that much benefit almost uniformly is obtained by tonsillectomy in cases of large lymphatic glands in the anterior triangle of the neck. The lymphatic gland that is supplied directly from the tonsil lies at the anterior margin of the sternocleidoid muscle on a line with the body of the mandible. From this gland others are supplied, extending downward, being relayed three or four times, finally reaching the apex of the pleura. This rather indirect anatomical connection accounts for the theory that the tonsils may be the point of entry for infectious diseases and especially tuberculosis. In fact, it is given as the explanation of the frequency of apical lesions of the lungs. At all events an infection of cervical lymphatics is very apt to come from the tonsils, and Sluder states that in his experience these glands become smaller or normal after tonsillectomy, with increase of appetite, strength and weight. This follows oftentimes even though the tonsils by inspection were negative. Usually, however, there are indications of chronic tonsillitis.

Some writers have recommended tonsillectomy as part of the treatment for chorea, but in Sluder's extensive experience he has not seen any improvement which could be attributed to tonsillectomy, and in those cases that were improved, tonsillectomy was indicated for other reasons which probably were accountable for the benefit derived.

In discussing the indications for tonsillectomy, Sluder very pertinently remarks that an attack of acute tonsillitis may be most mischievous or pernicious as the forerunner of many other diseases such as rheumatic fever, endocarditis, serious or fatal infection of the lymphatic glands of the neck, middle ear infections with their fatal possibilities, quinsy, acute nephritis, pyelitis, and probably many more in which the causal relation is less clearly discernible at present. When the tonsils give definite indication for removal, the prognosis is as good as in most other departments of surgery. On the other hand, the removal of tonsils without justifiable indications oftentimes leads to disappointment. This is particularly the case in children, rather than adults in whom the functional activity of the tonsil is a thing of the past.

An interesting discussion which even at present commands the attention of physicians is the relationship between goiter and focal infections in the ton-

sils. Extensive inquiry among a large number of men who have given this problem careful study brings about the conclusions that while goiter is believed to be of toxic origin, and the tonsil may be the focus of infection, yet it is not more likely to be the cause of the goiter than infection in any other location, such as in the sinuses, teeth, or gall-bladder. Sluder says that it is his experience that thyroid gland disturbances are very frequently secondary to throat infections, but it is his opinion that the lingual rather than the faucial tonsil is more apt to be the causative factor. He even goes so far as to say that faucial tonsillectomy for goiter has been disappointing.

Much has been written lately concerning X-ray or radium treatment for enlarged tonsils. In this connection it should be noted that the anatomical structure of the tonsil cannot be changed by such treatment. In problems that involve the infection of tonsils it would seem that tonsillectomy should be the choice despite the fact that X-ray and radium may reduce their size and sterilize them temporarily. Tonsillectomy for recurrent acute follicular tonsillitis is one of our most satisfactory procedures. However, it is obvious that where tonsillectomy is contraindicated, the laryngologist will welcome the use of the X-ray or radium.

There are a few definite contraindications for tonsillectomy and obviously the first one is hemophilia. Status lymphaticus is another contraindication, though the large thymus may be treated by X-ray, and when it has been absorbed the case may be operated. Furthermore, the patient's general condition may be such that all surgical procedures are contraindicated save those that are immediately necessary to save life. Diabetes comes into this class. Diabetes may, however, be operated when the urine has become free from sugar and acetone, but they should remain under the observation of a competent internist throughout.

We can dismiss the question of loss of function as a contraindication to tonsillectomy, for the reason that any possible function possessed by the tonsil will be cared for by the remaining lymphoid tissue in the throat, and the compensatory action is quite sufficient. Occasionally the recommendation is made that tonsillectomy may be performed in the presence of an acute sore throat, but such advice is pernicious and should not be followed, as the results are very apt to prove unfortunate. Hypertension is not a contraindication for tonsillectomy if blood clotting is normal, and this is borne out by the experience of all operators who have done tonsillectomy regardless of hypertension.

A point of considerable discussion is the effect of tonsillectomy upon the singing voice, and Sluder very fairly presents the matter in this way: "Many persons desirous of singing often think they can sing and are encouraged in this belief by family and teachers. As they continue their efforts and lessons it is found that their throats do not stand the work. They sometimes then consult a laryngologist. Should he remove the tonsils under these conditions, he will find that his surgery is often unjustly blamed for the loss of that voice, but with real disease of the tonsils in real singers, the prognosis for tonsillectomy is as good as for other patients." This opinion is corroborated by the opinion of other experienced laryngologists.

In summarizing the whole subject it may be said that while the indications for tonsillectomy may vary in different individuals, yet on the whole there are few contraindications. Most of the bad results can be attributed to bad surgery, for there are few instances where a properly performed tonsillectomy of itself alone has produced bad results, although unquestionably there are many cases in

which tonsillectomy has been disappointing because results were expected that required the removal of symptoms or conditions for which the tonsils could not be held responsible.

Dr. Cody of Texas, in the Texas State Journal, presents a statistical study of the results of tonsillectomy. This study includes all the available literature for eight years and covers 32,386 cases. The following interesting observations are made:

No operative deaths from anesthetic.

Death rate, 1 to 2,944 cases.

Death due to complications of: Acidosis, sepsis, diphtheria, pneumonia. Morbidity was 153 cases and consisted of hemorrhage, diphtheria, scarlet fever, acidosis, broncho-pneumonia, acute otitis, lung abscess, meningitis. There were lung abscesses in a ratio of 1 to 2,227 cases.

In 86 per cent the operation was successful and a failure in 13 per cent of the cases.

Cody's article presents some very interesting conclusions. While his figures apparently reveal that tonsillectomy is a most potent measure and fraught with a minimum of danger, it must be remembered that in a study of the literature one does not obtain insight to all the untoward results. Likewise the ultimate end result and condition of the patient is not always imparted.

There is no doubt but what tonsillectomy is indicated in diseased tonsils. There is no doubt that very desirable results ensue upon their removal. There is no doubt that there is an unnecessary slaughter of the tonsils taking place.

The point we wish to make is that tonsillectomy is not an operation to be done by every one at "so much per." The removal of the tonsil should only be accomplished upon the recommendation of a competent laryngologist and the operation performed by such a trained specialist.

THE MEDICAL PROFESSION—A NEWSPAPER MAN'S OBSERVATIONS

Editor's Note: This address was delivered before the Wayne County Medical Society by Mr. M. W. Bingay, Managing Editor of The Detroit News. It is so human and practical as well as pertinent that we want you, Doctor, to read it. Having read, ponder and then do your part.

I have been asked, in addressing you tonight, to give a newspaperman's opinion of the medical profession. One does not have to be a doctor to know there is something wrong with the medical profession, any more than one has to be a lawyer to know there is something wrong with the legal profession, or a churchman to know there is something wrong with the church, or a journalist to know there is something wrong with the newspaper. The

bricklayer who once laid a thousand and more bricks a day now lays around 300, and all other labor is much the same. There seems to be something wrong with the whole human race. The world is sick and it needs a doctor, a divine doctor—and I do not mean by that a doctor of divinity.

We have been traveling too fast in a material sense. In a brief century the whole mode of thought of the human race has been overturned by the oncoming of the age of mechanics. For countless thousands of years the world stood still. The printing press, the sunlight of modern man's intelligence, had not been invented; then came Gutenberg with his leaden and movable type and thought became ubiquitous. The human race as a mass began to read and feebly reason. Men's minds were open and the flood gates of mankind's inventive genius burst asunder; we are now riding on its torrential floods. It takes three seconds to cross the Atlantic ocean today; a century ago it took three months. Napoleon's soldiers could travel no faster than could the soldiers of Hannibal; the messengers of George Washington could bring tidings no faster than could the messengers of Julius Caesar; the ships of John Paul Jones could not travel faster than could the ships of the Phoenicians 6,000 years before.

In less than a century, in little more than one span of life, Man has triumphed over space and time; he has conquered the earth, the air and the waters. In one hundred years he has made more material progress than he did in all the countless thousands of years before. And he has paid the price. He has conquered the whole world only to lose his own soul; but he will win it back; his greatest victory is yet to come, for slowly he is conquering his greatest enemy of all—Ignorance. The world is suffering the birth pains of a new order of life and in the agony of this re-birth we have lost our perspective on true values; we have lost touch for the time with the things of the spirit, on which all faith is founded. We have lost faith not only in each other, but in ourselves. But a new day is dawning. Science, with its hand-maiden, the printing press, is conquering Ignorance. The doctor and the journalist must play a big and vital part in this struggle. And their efforts must be co-operative. When Man has conquered Ignorance he may turn to the greatest conquest of all and calm his own restless soul. Then—the millenium—but that is looking too far away.

It is of the doctor and the newspaperman and their joint responsibilities of the present time that I want to speak. The doctor must learn the value of a more generous frankness, not only with his individual patient, but to the community at large. And the newspaperman

has as much to learn in this connection as has the doctor. The honest editor of today not only freely confesses his paper's shortcomings, but is striving to overcome them. Of our journalistic derelictions of the past and present and our program to overcome them, I shall speak later.

When I say that the public has lost faith in the medical profession, I do not mean it as any especial reflection on the doctors; I mean that for the time being Man seems to have lost faith in mankind in general and not necessarily doctors in particular. The human race seems to be temporarily in the moral doldrums. You men of the medical profession seem to sense this condition and are seeking a way out; otherwise you would not be going so far afield as to get such as I am to address you. You feel there is something wrong with the world and you want to help by first getting your own house in order. Therefore, I offer you these opinions merely to give you the benefit of a viewpoint; I speak with no voice of authority; of the science of medicine I am vastly ignorant. Yet I am asked, and on compulsion I speak.

To begin with, there must be something wrong with this business of being a doctor. If there were not there would not now be springing up all this amazing array of freak schools of medical thought. These schools could not grow and prosper without patronage; and they could not get patronage of so large a kind if the people were satisfied with and had faith in the regular schools of medicine. Granted that these quack schools of the "intellectual underworld," with their prostitution of the mind, have but a transient following, it is nevertheless an outstanding fact that they continue to grow, the deluded victims going from one to another.

I feel that the doctors have become victims to a degree of this world contagion of unrest, discontent, and Oh-what's-the-use attitude of mind. As a newspaper editor I have a somewhat retentive memory and I recall some remarks along that line delivered to you by Dr. Davis when he retired as your president.

The solution of all these problems of the doctor as well as of men in all other walks of life can be found in the one word, *service*. We have all been traveling at so terrific a pace in the world's material development that we have gotten away from ourselves. A doctor has no right in this rapidly changing world to quit studying after he has been graduated and given legal permission to practice. He must keep everlastingly at his studies to keep abreast of the times; he must know his business in his chosen field of activities and he must not take upon himself the treatment of a patient when that case goes far beyond his knowledge.

You doctors face a different world than that

which your fathers in the profession faced. You have got to recognize that fact every hour of the day if you are going to succeed in your efforts of winning and holding the public confidence.

We can all remember back in our boyhood how the doctor in our community was venerated above all others. The very term "family doctor" meant all that it implies in close human contact. He was the friend and whole-souled adviser, and though he walked with the kings of science he never lost the common touch. He was feared and beloved as he moved slowly around among his patients behind his old horse. I know of no passage in all literature more beautiful than the story of the village doctor in Ian Maclaren's *Bonnie Brier Bush*, who fought his way through the floods to save the old sheep herder's wife. One gets somewhat the same thrill, in minor key, from the ride of Dr. Kenicut in Sinclair Lewis's *Main Street*. I imagine the country doctor sees the struggle much more clearly than does the city practitioner.

I give this as an impression and not as a fact. I do not know that the doctor has fallen from his pedestal in the estimation of the public. I do not know if the doctor of other days was so venerated. Time mellows all memories. Some one remarked that the *London Times* was not what it used to be, and a wise man answered: "No and it never was." But we will accept for purposes of criticism that the premise is correct, that the doctor has to some degree lost the public confidence. The popularity of the fad schools would indicate that he has. What is the reason?

I rather imagine that the old-time doctor practised in a gentle way a magic through his personality something not unlike the mysticism of the Indian medicine man. They believed in the doctor first and in his pills afterward. That day of simple faith is gone. All authority is questioned in this cynical age of ours. Laws are flouted and delegated powers defied. Your pastor will tell you that even the church of today is a record of crumbling or changing creeds. The doctor has not escaped this avalanche of distrust. People will not believe what you tell them simply because you tell them. We of the newspaper profession have long since learned that the people have a knowledge of social hygiene of which their parents knew nothing. There has grown up a generation educated in the high schools and even the grammar schools on physiology. And for the doctor who is trying to win a patient's faith a little knowledge on the part of the patient is a dangerous thing unless the doctor knows how to talk with him instead of at him. The day when the average patient was so ignorant of bodily ills that he carried a horse-chestnut in his pocket to ward off rheumatism, has passed.

We are in the early gray dawn of an awakening intelligence in these matters with still a tinge of the night of superstition. We, the patients, see things in a different light and yet the sun of our knowledge is not sufficiently strong to see them as clearly as we will. But we do see and therefore we question and doubt. The doctor must help us get a proper perspective.

First he must educate the public to understand that he is not a miracle man and does not pretend to be one; that platitudinous Latin phrases and nice pink pills will no longer cure anybody; that after all there is but one doctor, Nature. Nature is the one that does the curing and the medical man is merely the nurse in attendance, getting the patient ready for Dame Nature's operation.

Second, a doctor's ego very often makes him talk to his patient as though medicine were an exact science, when the patient of today knows very well that it is not. He has read and seen and heard too much not to know. I would like to see in every doctor's office a sign, something of this sort:

"I do not know everything.

"Medicine is such an inexact and so vast a science that no one man can know it all. But, what little I do know, I know well, and I know enough to know what I don't know. As your doctor I will try my best to diagnose your case and tell you what it is that troubles you. If I cannot find out I will tell you so and through my knowledge of the profession and your condition I will take you to a specialist on such cases as yours and I will co-operate with him until we do determine what in thunder it is that ails you."

I think the public should be educated to the value of the specialist and at the same time the vital place and great worth of the general practitioner should be, as I see it, the outer guard for the medical profession; his office should be the clearing house for the specialist. This is the era of specialization and efficiency. The people see it in manufacturing production and in selling and they grow impatient when they find the doctor behind the spirit of the times in this regard.

When Henry Ford opened his factory at Cork, Ireland, he had trouble immediately. The workmen resented the idea of production with every man being given a certain thing to do and do well. They had the old-fashioned idea that one man should be allowed to make a whole car all by himself. It took considerable work to get them away from that idea. Now in medicine the doctor sometimes appears in that role to his patient. He wants to make the whole machine all by himself. He may be a throat specialist, but he doesn't mind tinkering with a bad liver as long as that liver belongs to someone else, though he may not have done any studying on liver cases since leaving college.

Absolute sincerity with the patient must be the first requisite to confidence. You cannot get that by telling him you are the doctor and know everything, or by tut-tutting him as you would a child when he asks questions. It's *his* liver and he naturally has a peculiar interest in it. And you should learn so to talk to him that he will understand what you are trying to say. Sell him on your profession rather than on yourself. Let him understand that the practice of medicine must be, because of its vast range, a co-operative movement among the doctors on behalf of society.

Man cannot live by himself alone. Neither can he, if he is desperately sick, live by one doctor alone unless that doctor knows his business. And to get to my point as a newspaperman, neither can the medical profession live by itself alone. This world has grown too complicated for any one man, or any one profession, to feel self-sufficient. The individual doctor can regain the confidence of his people through co-operative effort by making popular the medical profession. How? By this education of the people. I think men like Woods Hutchinson, Dr. William Brady and Dr. Evans, who have written in clear, simple English on the problems of medicine for non-medical readers, have done more to create confidence and understanding of the doctor on the part of the public than any other thing ever done by your profession. Take the people into your confidence and let them know what it is all about and there will come understanding. And with that the quack schools will fade away even as has the horse chestnut as a cure for rheumatism.

In this connection the North American Newspaper Alliance, comprised of 70 or more of the leading newspapers of the United States, and of which The Detroit News is a member, has made arrangements with Dr. Morris Fishbein of the editorial staff of The Journal of the American Medical Association, not only to write for our public, but to act in an advisory capacity for us.

This means that these 70 newspapers with a circulation of somewhere between 12 and 15 millions are now in position to avail themselves of all the information of the American Medical Association. Each newspaper is privileged to write or wire Dr. Fishbein for information and guidance on breaking news stories to make sure that our public is not mislead. It is by such co-operative effort as this that the newspaper and the doctor, working hand in hand, may go on to their greater destiny of helping society in its struggle upward.

I think there has been in very recent years a great and steady change for the better on the part of the medical profession in taking the public into its confidence; a greater willingness

to confide in the individual newspaperman and to work with him. I feel that this attitude on the part of the doctor is due in part to the rapidly improving standards of ethics among the better class newspapers of America. I frankly do not blame doctors—or anybody else for that matter—for refusing to risk their reputations and standing by talking to irresponsible newspaper reporters for yellow newspapers who will garble and twist whatever may be told them to make a sensational story with a complete disregard of the evil effects of this misinformation on the public mind. I freely admit the derelictions in this task of educating the public have not been all on the side of the doctor.

Unfortunately the average doctor does not have an understanding of newspapers and newspaper practice. He either fears all newspapers and refuses to consider the constructive possibilities, or he loves all newspapers whether they be sensational or sane, just so long as they play his name in big type. I think the honest newspaper man and the honest doctor agree on one thing and that is in their holy hatred of these "publicity hounds." When you find one of these notoriety seeking doctors and get him into contact with an irresponsible and sensational newspaper man you have a combination that will do more than any other one thing to wreck all this effort to educate the public on the larger social values.

I know how maddening it must be for the average doctor to pick up a newspaper and find himself quoted as saying that his patient is suffering from "Angora Pectoris," when he has clearly said "Angina." It sort of gets his goat. He may say his patient has "miliary tuberculosis" and learns later that the man is suffering from "military tb." He says "prostate gland" and the reporter puts him into a condition of complete collapse by writing it "prostrate."

Many of these errors in newspapers which make the doctor fearful and skeptical are due to the tremendous speed necessary to get out a daily newspaper and many are due to plain downright ignorance, and shiftlessness.

The problem of the newspaper in the handling of medical news comes under two headings: First, medical news; that is, live news stories having a medical angle, such as the announcement of the discovery of insulin. Second, the instructive feature, such as Dr. Fishbein's article on insulin which we recently published. Now, these instructive features must come from men widely known and recognized in the medical world. That is why we have gotten Dr. Fishbein as one contributor. In the breaking stories, especially those of a local nature, it is necessary to trust and depend upon some local physician of standing. This we try to do on The Detroit News. The American

Medical Association is answering hundreds of telegrams and letters from these newspapers of the Alliance to keep our public informed.

And, so you see, the seed of co-operative effort between the doctor and the editor has already been sown. The sincere man of medicine who consecrates his life to a study of human ills, who never guesses, when by hard work and study he can correctly diagnose a case, holds a position of more vital importance to a community's life than any other. The sincere and intelligent newspaper makes of itself a university through which there is gathered and disseminated the information by which our civilization is maintained.

Let the doctor understand this function of the press. Let him realize that not only has the world changed for the physician, but it has also changed for the newspaper. No profession in America has made more advanced strides in constructive effort than has that of journalism during the past 10 years. This alliance with the American Medical Association is but one of many steps. We are in a battle just as you are for a renewal and a strengthening of public confidence. When the sincere doctor and the sincere journalist meet on common ground and compare notes, it is found that they are, after all, working in a common cause, the alleviation of mankind's ills. And while chaos at times seem to rule our world with all its attendant suspicion, cynicism and hate, all of us can look forward eagerly to the new order of things, and can say with Mark Saber:

"O wind, if winter comes, can spring be far behind?"

ORGANIZED ACTIVITY

The Michigan State Medical Society was organized for certain very definite purposes. These are well stated in Section II of our "Articles of Association"—To federate and to bring into compact organization the entire medical profession of the State of Michigan and to unite with similar societies in other states to form the American Medical Association; with a view to the extension of medical knowledge and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life.

The great advance in the realization of these ideals is well described in the exaugural address of President Dodge at our annual meeting at Grand Rapids in September. A careful reading of this address as published in the October number of the Journal must impress one with the great progress in our work as an organization during the last 21 years. That there remains much to be accomplished must be apparent to all.

It is our purpose to bring into this organization the entire medical profession of the state. There are in many communities eligible men who should be affiliated with our Society who are not members. County Society secretaries should make it their business to get into their membership such men and thus help to realize our purpose of making this Society represent the *entire* medical profession. By this I do not mean that we should let down our standards for mere members. But there are still a good many doctors in the State of Michigan outside of our Society who would be a credit to our organization and who might profit greatly by becoming affiliated with it.

In this connection let me also emphasize the importance of affiliation of our members with the American Medical Association. We should have as our ideal that every member of our State Society should become a Fellow of the American Medical Association. The editor of our Journal has recently laid great emphasis on this point and it is to be hoped that he will continue to do so in the future.

The Council serves as the executive body of our organization in the interim between the meetings of the House of Delegates. Each Councilor is elected to be the organizer and peacemaker for his district. It is his duty to visit at least once a year each County Society to aid it in the problem of organization. The Council through its publication committee is responsible for the publication of the Journal. It is the aim of the Council to have our Journal not only of definite scientific value but also to serve our profession as a means of promoting the organizational activities of our Society. It should be the means of bringing the members of our profession into closer relations with one another and of promoting an exchange of ideas on matters of vital interest to us all. Members are invited and urged to make use of the Journal for this purpose. At the last meeting of the Council it was decided that in the future correspondence for publication must bear the signature of the writer. The fairness of this should appeal to all. Fair, open criticism should be productive of good. Unfair, underhanded criticism as a rule results only in hatred and discord. Our new President Connor has appointed to our standing committee, men of un-

derstanding and experience and the Society has good reason for expecting valuable service from these committees. The realization of our ideals as an organization during the next year must depend to a large extent upon the energy and enthusiasm which these men bring to the work which has been assigned to them. In announcing President Connor's committee appointments in the October issue, the Editor has very happily appended the provisions in our by-laws outlining the duties of these committees.

The most important work of our Society must always rest upon the County Society and its individual members. It is only as each component Society prospers and carries on its work that our ideals as a State Society can be realized. County Society organization must be successful if our state organization is to go on. If each County Society can put on good programs and get out its membership to its meetings we need have no fear for the future. It is up to each of us to make our County Society the very best possible.—J. B. Jackson.

OPHTHALMOLOGY

The trend of Ophthalmology, like general medicine at the present time, is towards prevention of disease.

Since the midwife and obstetrician have been trained to closely observe the condition of the eyes of the new born children and use preventative medicine, ophthalmia neonatorum is no longer the great menace it was a few years ago.

The improvement in the treatment of nasal affections has greatly reduced the number of cases of chronic conjunctival and lachrymal infections. The recognition of sinus disease as being a cause of optic neuritis has saved many patients the disaster of optic atrophy.

Medical ophthalmology has assumed a position of great magnitude, and operative procedures are undertaken only after the most exhaustive inquiry into every possible cause that might be a factor in producing the condition, in modifying the process of healing, or the final result, should an operation be regarded as essential in securing relief.

A more thorough understanding of the relation of focal infections to diseases of the eye, is rendering great assistance. Diseased teeth, tonsils, nasal sinuses, etc., are receiving most careful attention. While ophthalmology is one of the oldest branches of surgery and many new operative procedures have been introduced from time to time, there is a tendency to adhere to those that have given satisfactory results, such as the broad iridectomy for acute glaucoma. The trephining operation, as done

by Major Elliot, and any other operation that leaves a permanent opening into the anterior chamber, only covered by conjunctivae is not without danger of secondary infection. The writer was unfortunate enough to see one case in his own practice where, fully two years after a very successful trephine, infection from a purulent conjunctivitis entered the globe through the trephine opening followed by panophthalmitis and loss of the eye.

The intracapsular operation, for removal of cataracts, is quite popular with many ophthalmic surgeons, as it so greatly reduces the time of waiting, since it is not necessary for the lens to become mature before operating. Then, too, one can avoid the secondary cataracts that so often form and must be needled after the usual capsulotomy procedures.

In the practice of rhinology, otology and laryngology there is a tendency towards conservatism. In this we have not fallen behind our brother practitioners of general medicine and other specialties. Pathology is receiving more attention and study, more painstaking and completeness in history records, very greatly assists us in making a more accurate diagnosis. Hospital standardization has done much to stimulate improvement in this important part of our work.

In individuals and special committees are doing excellent work in securing legislation to protect innocent children and adults from the horrible suffering and death due to swallowing by mistake caustic lye and corrosive poisons. Largely through the personal and individual efforts of Dr. Chevalier Jackson of Philadelphia, legislation has been passed in the state of Pennsylvania, specifying how each can of caustic alkali or cleansing powder shall be labeled, and imposing a fine of one hundred dollars for each can sold within that state without such a label. Under the leadership of H. Marshall Taylor, a similar law to the law of Pennsylvania, has been enacted in the state of Florida. Michigan with her able legislative committee of the State Medical Society should be next in line.

Organized social service for the deafened has recently been established in a few of our larger cities, where lip reading is taught and the use of mechanical aids to hearing are encouraged. Vocational training for hard of hearing is being advocated, so that deafened people may be taught new occupations. It is a trying experience to be called upon by a deafened person to give a final opinion when no hope of permanent improvement may be held out. This person should be taught and encouraged to become a proficient lip reader, and to reconstruct his life along lines where his social interests can again be fully enjoyed.

There is a growing tendency towards developing and training men for special lines of our work, such as bronchoscopy or correction of facial deformities. This should be encouraged, for only those who are fortunate enough to be connected with our universities or large hospitals can ever expect to get enough of this work to become experts.

Post graduate courses have been started in several state medical and other societies. Most of us know of the excellent work done in this section at the last meeting of our own state association and the lectures arranged by the Detroit Oto-laryngological Society the past two winters. We need greater facilities for the study of pathology outside of the large medical centers. Joseph E. Beck's new work "Applied Pathology of the Ear, Nose and Throat" is a splendid review of the work done in his institution and should be read by all of us.

It is the writer's belief that the past year has done much to prove the fallacy of X-ray treatment for diseased tonsils. In so many cases we have found it necessary to remove the tonsils after extended treatment by roentgenologists, that we would hesitate to recommend this treatment except for very debilitated patients. The improved methods of enucleation under local anesthesia is so free from shock and danger, and the proper after care so greatly reduces the post operative suffering, that the operation need not be dreaded, even by extremely timid or nervous patients. Treatment of malignant growths by X-ray and radium especially following removal of the growths by surgical procedures, to prevent recurrence, is highly recommended by many operators; yet, those who have been using the actual cautery for the same purpose, burning the tissues deeply and extensively, believe the results are more gratifying.

Some progress has been made in the understanding of the vestibular tracts in the brain, but there is still much work to be done along this line before our present tests of these tracts are of much value in the diagnosis of and localization of brain lesions. W. G. Bird, Flint.

GREETINGS

The President, Council and Secretary-Editor extend sincere and hearty greetings and good wishes to all our members and readers for a truly Merry Christmas. And likewise, on behalf of our members, these officers convey similar greetings to our advertisers, officers of our National Association and to the members of sister State Societies.

It is our cordial wish that all may enjoy a Christmas season filled with a goodly measure of happiness and joy.

PROGRESS OF SURGERY IN THE PAST YEAR

The discovery of insulin has been a great accomplishment in internal medicine. There has been nothing as outstanding in the recent progress of surgery, but upon careful analysis one is impressed with the progress in general in the improved quality of the work. Fewer operations are being done because men not properly qualified are rapidly being discouraged owing to the higher standards of our hospitals, instigated largely by the efforts of the American College of Surgeons. Men who were qualified have been stimulated to do better work. The laboratories are better organized and equipped, facilities in general have been added and improved, and the system of records has been very much improved. All these factors and others not mentioned tend to improve the quality of surgery. This is pointed out because it has seemed more productive of results this past year than during any previous one since the institution of the new standards. It has taken a few years to re-organize our hospitals and to re-adjust the mental state of the profession. We have passed through the stormy period and now once more we are stabilized, but on a much higher plane of efficiency. The better qualified men and those possessing high ideals are not the only ones that have benefited, but the example set by these men has been of profit to others. When all has been said and done the patient is, of course, the one who profits the most by any improvement in medicine and surgery.

Anaesthesia. Ethylene gas brought out in the past year by Luckhardt and Carter seems to possess a worth while advantage over nitrous oxide gas in that—(1) patients go under more quickly—(2) it gives better relaxation—(3) it seems to be as safe if not more so, and (4) the patient gets 20 per cent of oxygen over against about 8 per cent in nitrous oxide anaesthesia. It is claimed that it does not have a destructive influence upon the hemoglobin or red cells.

Local anaesthesia is becoming more popular and in the past year especially so in all kinds of pelvic and perineal work. There are two methods for anaesthetizing the sacral nerves—the injection of novocaine solution into the main central canal through the caudal foramen, and the individual injection of each nerve through the lateral foramina. There are advantages and disadvantages in either procedure. The former method requires 20 minutes to induce complete anaesthesia. Moreover, in from 10 per cent to 15 per cent of cases the resulting anaesthesia is not complete. In the latter the technique is more difficult and the

contact of the needle against the periosteum or the occasional striking of a nerve causes pain.

Ether, of course, retains the reputation of being the anaesthetic of safety for general anaesthesia.

Blood Transfusion. The pendulum is swinging back in favor of direct blood transfusion without the use of sodium citrate. Many men have reported large percentages of reactions following use of the citrate method. The use of unmodified blood is, of course, ideal. Lindeman's method accomplishes this by interchanging numerous syringes with which he aspirates the blood from the donor and then injects the blood into the recipient. Unger has perfected an instrument with a three way valve. The latter is a very simple method and 500 cc. can be transferred very readily within 10 minutes. Many men take the position that the transfusion of modified blood should be done only when it is impossible to administer unmodified blood and that citrate transfusion should never be used when hospital facilities are available.

Goitre. There has been much written on the management of goitres in the past year. In this field probably the most outstanding feature is prophylaxis. Sixty to 120 grains of iodine administered twice a year is sufficient in most instances to prevent simple goitre. It has been pointed out that this is more efficiently done as a Public Health measure than through individual physicians. In young persons with a recent goitre it has a curative affect. The surgical management of the adenomatous type and the exophthalmic goitres is well established. The use of X-ray and radium is increasing and this procedure, in all probability, demands consideration. It does seem, however, that rather extravagant claims are made for this method of treatment, in view of possible damage to surrounding organs or tissues, and the fact that it has not been used long enough to know anything conclusive about subsequent exacerbations. The danger of myxoedema from heavy doses has been pointed out. Recently the ligation of all four of the thyroid arteries is being agitated. After ligation of the thyroid arteries a polar ligation should be made in order to cut off the veins and lymphatics and nerve filaments. The exact reason for improvement after ligation is still debatable.

Thoracic Surgery. The tendency is more and more to the graded operation to lessen the danger from shock and infection and to prevent serious embarrassment of the respiration and circulation. In cases of pulmonary tuberculosis with extensive pleural adhesions preventing collapse of the lung by means of air inflation, multiple rib resection and mobiliza-

tion of the ribs by anterior and posterior sections with consequent collapse of the chest wall has been carried out with success.

Several articles have appeared on mediastinotomy, hitherto considered a more or less inaccessible field. This has been used in carcinoma of the esophagus. The posterior route is advocated by some, by others the transpleural route.

An increased interest is being displayed in the performance of intra-cardiac surgery. With the use of a direct vision cardioscope intra-cardiac manipulations have been carried out. It has been used successfully, experimentally in many cases, and one case on the human has been reported by Levine and Cutler of a mitral stenosis in which the operation of valvulotomy was successfully completed. This has been attempted once before, but the patient did not survive.

Gall Bladder. There is increasing interest in the theory of relationship between the appendix, liver, gall bladder, stomach and pancreas. There is still some controversy as to the choice of operation—namely, cholecystostomy or cholecystectomy. The consensus of opinion is in favor of removal of the gall bladder in all cases in which there is demonstrable pathology, except in very acute cases in which the danger connected with this operation may be prohibitive.

Closure of the abdominal wall without drainage after cholecystectomy is coming into vogue. It is considered safe practice in most instances and is attended by fewer complications.

The administration of 5 cc. of a 10 per cent calcium chloride solution on three successive days prior to operation in cases of obstructive jaundice has been shown to be effective in reducing the delayed coagulation time with consequent avoidance of post-operative bleeding. If, however, the coagulation time is not brought down sufficiently by this treatment a transfusion may be given.

Stomach. In stomach surgery the so-called sleeve operation is becoming more popular in cases of chronic ulcer because it is frequently difficult to differentiate between a benign ulcer and an early carcinoma. It is the operation of choice in the case of multiple ulcers, in ulcers high on the body of the stomach, or in hour glass constrictions. The occurrence of hour glass constriction following partial gastrectomy has been over emphasized. The Polya Balfour operation is becoming more and more popular in surgery of chronic gastric ulcer, replacing gastro-enterostomy very largely in the practice of many men.

In congenital pyloric stenosis larger doses of atropine are being used than ever before. As high as 1/13 of a grain of atropine is given

in 24 hours. It is believed that this practice has tided over some cases that formerly were submitted to surgery. The Ramstedt operation still remains as a simple procedure with a very low mortality if the cases are reported at an early date.

Acute Intestinal Obstruction. There is much current discussion on the subject of acute intestinal obstruction. Increased attention is being focused on the methods of making an early and accurate diagnosis, on the cause of death, and on treatment. The mortality rate is still too high. The X-ray is being used diagnostically to advantage, with or without the use of barium. Many theories have been advanced endeavoring to explain the cause of death, but no single one seems to satisfy all conditions, due probably to the inter-relationship of the etiological factors.

In the treatment enterostomy is being emphasized as a method of lowering the present high mortality in acute intestinal obstructions by many men, with operation for relief of the obstruction to be undertaken after toxic symptoms have subsided.

Cancer of the Large Bowel. Preliminary drainage in all cases of carcinoma of the colon beyond the splenic flexure is advisable. Operations by stages minimizes surgical shock and limits the spread of infection. The Mikulicz operation is safe and satisfactory and applicable to most growths of the transverse and descending colon and sigmoid.

Appendix. Considerable interest has been revived in the management of acute appendicitis. The diversified views held on this subject by leading men is extremely interesting.

Prostate. In prostatic surgery an increased interest is being shown in catheter drainage rather than supra-pubic drainage prior to removal of the prostate. In carcinoma of the prostate radium is applied directly through the perineum, by the bladder route, and by rectum. Partial prostatectomy in cases of carcinoma occasionally proves to be a curative rather than a paliative procedure. The combination of radium and surgery seems to offer the best results.

Cancer. In the treatment of cancer considerable progress is being made. The high percentage of early operations, more radical operations, and marked progress in X-ray and radium treatments accounts for the improved end results. Greater efforts are being made to bring the agent into direct contact with the tissue that is being treated—as for example, in carcinoma of the larynx the needles are passed from the outside directly into the affected tissue. Capillary tubes containing radium emanation have been buried in the gastro-intestinal tract. Carcinoma of the prostate

is treated by the needle direct as mentioned above. Many mouth cancers are successfully treated in this way. Direct application in this manner gives the best results and prevents the deleterious effect of radiation upon normal tissue adjacent to that to be radiated, an objection not without foundation.

The following summary by Georgine Luden of the Mayo Clinic, on Progress in Cancer Research is interesting:

1. The history of cancer research shows that the formerly much derided bio-chemical conception of malignant growth has not only survived through 24 centuries, but that it is gaining ground today because instruments and methods for chemical investigations are available.

2. The practical value of researches along chemical lines in malignancy has been demonstrated by recent investigations.

3. The complexity of metabolic functions and the number of organs concerned in their regulation make it seem improbable that any single cause of, or cure for malignancy is likely to be discovered.

4. The very multiplicity of the factors underlying malignant growth warrants, however, that the consideration of all factors which tend to disturb metabolic processes in the body, that is, chemical processes, will prove of benefit to the victim of malignant disease.

5. The complete and spontaneous regression of inoperable, malignant tumors in 100 well authenticated cases is conclusive evidence that the human body can wage a winning fight against malignancy.

6. The knowledge that other patients have become clinically well, although the odds seemed entirely against them, can do no harm to any patient suffering from a malignant condition and may prove beneficial to him.

7. Early diagnosis and early treatment of malignancy are of primary importance, but the regulation of the diet is of value also, because it facilitates the chemical tasks of the body."

The American Society for the Control of Cancer should be given credit for its fruitful efforts in educating the layman, and in fact the profession, in the importance of early recognition of symptoms and signs of cancer, and the importance of investigation. The fact that patients are coming earlier has constituted the greatest advance in combating cancer.

Pre-Operative and Post-Operative Management. More or less is being written concerning the matter of purging patients before and after operation. There is a difference of opinion on this subject, but the tendency favors a less drastic use of these procedures.

Fractures. The assistance offered by the use of the fleuroscopic reduction of fractures is being recognized more fully than heretofore. Its application has helped in accomplishing closed reductions in cases that otherwise would be treated by the open method. It also assists in accomplishing more perfect reductions. The employment of early mechano-therapy is being urged.

Insulin. The scientific employment of insulin is of value in preparing diabetic patients

for operation. Its indiscriminate use is dangerous and may result fatally. Such an instance has been brought to the attention of the writer.

Miscellaneous. Considerable publicity has been given to the intravenous and intracardiac use of adrenalin in patients with cessation of the heart beat. D. W. Crile has reported five cases which were revived by this method. Ten cc. of a 1/1000 adrenalin solution was injected into the heart by means of a lumbar puncture needle. It is indicated only after other measures have failed.—H. J. Vandenburg.

Editorial Comments

The question of medical fees is, and probably always will be, one of interest as well as conjecture. The financial end of a doctor's life dates back to 4500 B. C., when En Hetep, physician to the king of the third Egyptian Dynasty, sets forth several comments on personal profit. It is not known how much his fees were because the laws were not codified until the sixth Dynasty. In 2250 B. C. we find record and learn that the setting of a broken bone is worth five shekels of silver. When we consider that ten shekels represent an average yearly wage of a skilled laborer and that such an individual then paid a half of a year's earning to his doctor for reducing his fracture it must be perceived that doctors in those days were well paid for their services.

In 4600 B. C. the public dispensary was established and the medical attendant received the equal of \$500.00 per year in our money. Medical services were rated at about five times the amount received a day by a skilled laborer. Would that that were so today and that we could take the bricklayer or plasterer as our unit of skilled labor.

In 130 A. D., Galen received the equivalent of our \$2,000 for treating the wife of a consul for some acute febrile attack. Claudius received \$25,000 yearly as physician to his emperor.

We could continue similar citations, but desist lest we all become regretful that we were not born in those good days.

The Illinois State Medical Society is making a wide survey in its own and several other states to determine the extent of encroachment upon physicians' practices by health boards and officials. We shall await with interest the result of this survey.

The Wayne County Medical Bulletin, which is probably the most live and aggressive County Society publication in the country, provides, among other features, a department for the discussion of medical problems. The following is extracted from a recent issue:

"PANEL DOCTORS" WILL AID PUBLIC

(The discussion of state medicine and the approaches to it in this country, remains an interesting topic. As long as health offices are manned by politicians where it is to their advantage that the service be extended beyond a reasonable limit, we will have an ever increasing problem. The following news from "The Panel Doctors" in England should be of interest to the protagonists as well as the antagonists. In England they have someone to "pull the string." Read further and see how they like it.)

THREATENED STRIKE JANUARY 1 TO BE LIMITED

London, Oct.—It is estimated that 15,000,000 contributors to the National Health fund will be affected by the action of the "panel doctors' union" in refusing to accept a reduction in fees proposed by the minister of health. The physicians decided to strike on January 1, if the cut in their stipend was ordered.

Meanwhile the millions who are insured under the national insurance act will find their protection useless.

The disgruntled physicians, however, are careful to announce that they do not intend to let the public suffer and that they have already drafted a plan for public medical service which will meet the situation.

"We will give the patients exactly the same attention as now," said Dr. Brackenbury, one of the leaders of the physician's movement.

"Those who can afford it will be required to pay ordinary fees. Others who cannot will be charged reduced fees, while the really needy will be attended free."

It is clear from the statement of the doctors that the reduction in their emolument by the health minister is not their only cause for complaint. They also have a grievance against the insurance societies through which the present arrangement is operated, charging that these organizations dictate to them in an intolerable manner.

AS TO THE NEED OF ACTUAL HEALTH

Conservation assistance to mothers, it is pointed out, by actual investigation, that physicians of California give an average of one-third of their time to service for which no fee is charged. The same condition will be found among professions universally. We cannot conceive of a place where a worthy individual cannot receive competent medical services and attention. It is the pernicious, misdirected efforts of official and lay individuals who are foisting certain types of socialized medicine upon the public and pauperizing the public. It will be a sad day when the individuals' social independence is displaced by dependency upon state or national services when sickness confronts them. And as Indiana medical men say: "That is what is going to occur unless the medical profession awakens to the dangers that threaten."

Harper Hospital Bulletin, Detroit, contains the following that is worthy of much thought:

"WAIT PATIENTLY, THE PROFESSORS WILL SEE YOU AS SOON AS POSSIBLE"

The Alumni of Cornell should be proud of their Alma Mater—it is practicing medicine. We had gotten used to the multitudinous enterprises that have taken over the near-poor. We are used to the osteopath—the chiropract—the Scientists, and Abrams Box Treaters, who have taken over the neuresthenics and the gullible. We have even become tolerant of a multi-millionaire who practices medicine by proxy—but what may we expect when our Alma Maters start medical offices. The lay-public may laugh at what seems a funny predicament—laugh—it is funny—but, laugh well. Your position is similar to the boy who stood on the burning deck, eating peanuts.

Remove the profit and there will be no Ford cars—stop the profit and our stores close—wipe out the necessary financial gain from which the doctor and his family live, and good men cannot continue. The

love of humanity is strong among medical men—it is part of them, but they cannot live on it and buy life insurance—laugh, we say, but, laugh well.

The inspiration for the above editorial came from an editorial in the Bulletin of the Crouse-Irving hospital, published quarterly, at Syracuse, N. Y., written by W. L. Wallace, president of the hospital staff. Dr. Wallace failed to add the college "yell" to his editorial, therefore we will start him out with it.

"Yell, Yell, Yell like Hell for Cornell."

The editorial follows:

COLLEGE PAY CLINICS

Cornell University makes its first annual report of the Cornell Pay Clinic of New York city. It impresses us as an effort to whitewash unethical and inexcusable conduct.

The clinic offers medical services at less than wholesale cost, administered by specialists well advertised as professors of a great college. Each visit to the clinic last year, including medicine paid for, cost the clinic \$2.03 and yielded to the clinic \$1.57. In other words, with no overhead for rent or equipment, no expense for gasoline to visit patients too sick to come to the clinic, no unpaid patient's accounts and therefore no loss on collections, and with no free work, it still had a 25 per cent loss. How can it expect honest doctors to meet such highway robbery competition?

An unmarried individual who has an income of \$1100 to \$1800 a year can go to the clinic and get \$5 worth for \$1, which will leave him or her \$4 to spend for booze or soda water. If he has an income of less than \$1100 we understand the clinic considers him a pauper and expects him to go to a free dispensary. A family of two are apparently paupers if their income is not above \$200. In the first year of the clinic 25 per cent of all who applied for care were rejected. Why? Because—shame!—they did not have the fee to pay!

One excuse offered for the existence of the clinic is that by giving patients satisfactory treatment they are removed "from the lure of unscrupulous practitioners, charlatans, or pseudo-medical cults." It says, "The dissemination of sound medical knowledge by any means is the surest antidote and this the dispensary does through its satisfied patients."

This seems like an echo of chiropractic advertising and implies, "Come to us specialists in the profession and escape the dangers of ordinary charlatan unscrupulous practitioners." On one occasion about a year ago, when I stood in front of the clinic to watch the crowd, an imposing individual announced frequently, "Wait patiently, the professors will see you as soon as possible."

Why does Cornell run such a clinic? Certainly not to do charity work for the community. It would appear that the only reason could be to introduce these despised middle classes to her professors and specialists. These are the desirable people for any doctor to know. Who gets any money from the poor or the rich? Are not these middle classes the best customers of stores and the best patients of doctors, and the only ones who pay their bills?

If a man is really sick enough to go to bed at home or in a hospital, this clinic does nothing for him. If he is out of work it has no use for him. If his family is affected with tuberculosis, cancer or scarlet fever, if he is penniless or in distress, he must go to his family physician. But if he is able to be about and to earn money, it encourages him to come to the great specialists and professors and get \$2.03 wholesale of doctoring for \$1.57 retail, cafeteria style. Then if he has sickness at home

or an operation in the hospital, he will be likely to see that these noted professors and specialists are called in to receive the pay which their reputation would demand.

We all remember the foreigner who came to the doctor's office to tell about being out of work and to ask for help for his sick child. In the goodness of his heart, the doctor cared for the little typhoid patient by daily visits for three weeks. Finally, he was told not to come any more, that John had a job now and they had a pay doctor, who was making the child well. Undoubtedly, when John is out of work again he will return to his family physician.

W. L. W.

We desire to repeat the recommendation made on several occasions, that doctors use the "M. D." in place of the prefix "Dr." Almost anybody today is a "Dr." of some sort or kind. It is about time that we show up the goats.

Indiana has increased its state dues from \$5 to \$7 per year. In comparison to lodge, club, golf, athletics, gymnasium and auto dues, we as a profession have been miserly to the extreme. And what one of these clubs is as important to your welfare and work than your Medical Society? If your Medical Society is not exerting its influence to its fullest extent it is because you are limiting its activity by insufficient funds. Further, you are asking other men to donate their time and energy and you won't meet them halfway or give them sufficient funds to work with. That's why we, as a profession, are where we find ourselves today—misunderstood by the public and imposed on by lay individuals. One state has awakened and is paying \$25.00 per year per member. Indiana is on the up-bound—why not Michigan?

A recent report reveals that the Red Cross during the past year expended some eight millions of dollars and of this amount some three million was for salaries. This did not include the expenses or salaries of local chapters. To spend almost one-third of the total amount to distribute and administer a fund is extravagant and unwarranted. We repeat our opinion that this wonderful war-time organization should dismiss a large proportion of its salaried officers.

Eight issues of Hygeia have appeared. The present circulation is in the neighborhood of 30,000 copies per month. We have some 3,000 members of our State Society. Only 972 subscriptions are recorded from Michigan and these are not all from Michigan doctors, for this figure includes lay subscriptions. Hygeia should be on every doctor's reception room table and this alone should bring at least 2,500 subscriptions from this state. Further, Hygeia is the profession's most aggressive missionary and therefore it is practically obligatory that we should make a personal effort to secure a wide-spread lay circulation. Chairman Jackson of our Council is urging every County Society to take definite action to bring about an increased circulation of Hygeia in their respective localities. Michigan is not the only lagging state for the circulation records reveal the following distribution: Kentucky, 182; Indiana, 804; Minnesota, 425; Louisiana, 177; Missouri, 719; Wisconsin, 460, and Iowa, 829.

The November Bulletin of the A. M. A. is filled from cover to cover with intensely interesting organization news and the discussion of organizational problems. This Bulletin is sent to the president and secretary of all county medical societies and to the Fellows of the A. M. A. The Bulletin is worth the

price of Fellowship dues. As stated in a previous issue, by virtue of your being a member of our County Society you are a member of the State Society and the A. M. A. You are not, however, a Fellow of the A. M. A. until you make special application and pay the annual dues of \$5 to the A. M. A. For this \$5 you also receive a copy of the Bulletin and the Journal of the A. M. A. In addition you are supporting your national organization that is continually active in your behalf. Write to Dr. Olin West, secretary, 535 N. Dearborn street, Chicago, and secure an application blank and become enrolled as a Fellow. Get in line and do it today.

Correspondence

Dr. Guy L. Connor, President,
Michigan State Medical Society,
Big Rapids, Michigan.

Dear Dr. Connor—If we of the medical profession are to play our proper part in public affairs we must work largely through existing organizations. This, it seems to me, means that every state medical association should have a well organized committee on public welfare and legislation. Such a committee to be effective must deal in a practical way with men and with legislation. It seems to me desirable for it to make plans along three lines: (1) See that the best possible candidates are nominated, particularly for state offices; (2) See that of the candidates nominated the best possible are supported for election; (3) See that candidates before and after election are kept fully and accurately informed concerning matters pertaining to public health and the medical profession.

It is important to have this subject approached on a basis that will not seem purely selfish, but that will be for the good of the public in general, which, of course, means that it will be satisfactory to the medical profession.

It is of advantage if the chairman of the committee is one who has demonstrated his efficiency by past service and who can be induced to keep the position for some considerable period of time. His efficiency will depend upon the extent of his acquaintance, his knowledge of legislative procedure and will naturally increase with each year's service.

In order to handle the administrative work of the committee a good secretary is necessary. Either the chairman or the secretary should reside at the state capital and, if possible, they should reside so that they can have frequent personal conferences.

Some of the state associations are already effectively organized along these lines or others that have been proven by local experience to be equally satisfactory. In some states the arrangement is not so fortunate and it is particularly in these states that I urge prompt organization. If we are to present the uniform front that is necessary, effective organization in every state is essential. This applies both to state and national affairs. Organization should not wait until the legislature meets or congress convenes, but such action as may be necessary should be taken at once.

There has been set up at Association headquarters a Bureau of Legal Medicine and Legislation which can be called upon freely by the legislative committee for suggestions and advice. I hope very much that the officers of your society will review their present plans in this regard or consider new ones, and that they will take particular note of the desire of the Association to be of service through the estab-

lishment of the Bureau of Legal Medicine and Legislation under Dr. Woodward.

Very truly yours,

RAY LYMAN WILBUR,
President American Medical Association.

Editor of the Journal of the Michigan State Medical Society.

The Bureau of Drug Addiction submits the attached notice to you for reference, by request of the Medical Division.

The Bureau of Drug Addiction was formed after eight months of conservative investigation on the part of the individuals who comprised the former Los Angeles Anti-Narcotic Committee. It was the final decision of that committee to establish a fundamentally scientific foundation for treatment and investigation of opiate addiction disease. It was the final opinion of that committee that the present so-called drug situation is a situation developed largely through misdirected and uninformed, though sometimes well intended, activity on the part of semi-reform or lay "anti-narcotic" associations.

The medical and scientific men, and other individuals allied, will have no commercial interest in the work of the Bureau.

Reports of medical research work, and statistics, co-related during a period of years and now in possession of the Bureau, supplemented by the reports of work completed in the hospital unit, will be disseminated to the public in the form of official bulletins as fast as they are edited and approved by the Medical Division.

The Bureau will be glad to send these reports to you, if you desire them.

The Bureau will appreciate such aid or co-operation as you are in position to conveniently give.

The Bureau will particularly appreciate your expression of opinion relative to the present drug situation.

Very truly yours,
BUREAU OF DRUG ADDICTION,
H. L. Kirby, Director.

The Houghton County Medical Society met in October and November and changed the meeting night, in October, to the first Tuesday in the month, instead of Monday, as previously. Object, to have a larger attendance.

The program in October could not be completed on account of certain lantern slides being lost, so the "Red Apple" department of the Society took over the program and many a story in and out of medical practice was related, original and never seen in print, and possibly never will be.

The November meeting was attended by fully 50 per cent of the members.

C. E. Rowe, Secretary.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

FOR SALE—Used surgical instruments, eye testing case, obstetrical outfit and automobile fur robe, in good condition, by a Michigan graduate physician, deceased. Address Mrs. Emma F. Cross, 610 E. Liberty St., Ann Arbor, Mich.

WANTED—Board and room with country doctor or trained nurse, for boy sixteen, left by sleeping sickness in good physical condition, but needs outdoor life, under supervision with opportunity to attend school. Address—Care R. M., State Journal.

The St. Joseph's hospital at Hancock graduated its first class of nurses November 12 and a public program was observed. This hospital has gone on the accredited list as per rules and regulations laid down by the American College of Surgeons.

Dr. J. L. Chester of Detroit, addressed the St. Clair County Medical Society on November 2. His topic was "Diseases of the Heart and Their Remedies."

Post-Graduate Department of the Woman's Hospital, Detroit, Mich., announces the opening of its fourth annual series of lectures to begin November 14, 1923. The medical course will be given before the holidays, consisting of lectures by Dr. Harry B. Schmidt, Lectures on Internal Medicine; Professor McClintic, Medical Anatomy; Dr. James E. Davis, Pathology; Dr. John Taylor Watkins, Pulmonary Conditions; Dr. B. Raymond Hoobler, Pediatrics; Dr. Fred M. Meader, Problems of Mortality in Detroit. The surgical lectures will be given by Dr. Max Ballin, Surgery; Dr. Harry W. Plaggemeyer, Urology; Dr. Louis J. Hirschman, Proctology; Dr. C. Hollister Judd, Obstetrics and Gynecology; Dr. Myra E. Babcock, Anesthesia. Fee for both medical and surgical courses, \$25. Either medical or surgical, separately, \$15 each. All applications to be mailed at once to the Post-Graduate Department of the Woman's Hospital, Forest and Beaubien, Detroit, Mich.

Dr. W. J. Kay of Lapeer, who was operated on by Dr. Angus McLean at Harper Hospital for gall bladder disease, is making a splendid recovery.

Dr. Clark D. Brooks has recovered from a mastoid operation and will resume his practice on December 1.

Doctors R. J. Hutchinson and G. H. Southwick of Grand Rapids spent two weeks in northern Canada hunting—yes—deer.

Excavation was started the middle of November for the erection of the new Butterworth Hospital, Grand Rapids. The contract was let the first of the month. The cost will be in the neighborhood of \$1,400,000.

Dr. H. S. Collisi of Grand Rapids spent two weeks of November at the Mayo Clinic.

Dr. Max Ballin of Detroit addressed the general staff of Butterworth Hospital, Grand Rapids, on November 5.

Dr. Wilder of the Mayo Clinic will address the general staff of Butterworth Hospital, Grand Rapids, on December 3. His subject is Insulin. This will be an open meeting to which the profession is invited.

Dr. R. A. Walker, formerly of Lansing, has located in Menominee.

County Society News

HILLSDALE COUNTY

The Hillsdale County Medical Society met Tuesday, October 30, at 7:30 p. m., at the Mitchell Library, Hillsdale. The president, Dr. C. T. Bower, in the chair. The president at once introduced the speaker of the evening, Professor W. D. Henderson of the University Extension U. of M. The audience, which was mixed in character, had come by special invitation to hear Professor Henderson. His lecture, "Modern Science and Some Modern Superstitions," was listened to with profound attention and was replete with wise and genial counsel, interspersed with flashes of wit and humor and a few droll anecdotes. He criticized in a kindly way both physicians and the laity, recommending a better and more complete understanding between them, to be attained by more frequent application for examination to the family physician; by more careful and painstaking work in such cases and more complete and simple explanation of the conditions revealed. He also advocated a more generous publicity by physicians in regard to the advances in medical science which are so great and numerous that it taxes the physician to keep abreast of them, to say nothing of the layman who has little chance to do so. He laid much of the suspicion and want of confidence by the laity in modern medical men, to just this ignorance of their real work and motives. This acts, he said, to the harm of both physician and the public. It was a most enjoyable and valuable address.

After Professor Henderson's lecture, Dr. W. A. Oliver of Camden was admitted to the Society, which then adjourned until the annual meeting in January next.

D. W. FENTON, Sec'y.-Treas.

GENESEE COUNTY

The Genesee County Medical Society met for noon luncheon October 17, 1923, at Hotel Dresden. Dr. Bell of Detroit read a paper on "Antepartum Care." A free discussion followed.

The result of the election of officers for 1923-24 was as follows:

President, Dr. W. Winchester; vice president, Dr. A. Patterson; secretary, Dr. G. J. Cuny; treasurer, Dr. W. W. Stephenson; medico-legal officer, Dr. C. H. O'Niel.

Delegates, Doctors B. Stewart, Benson and H. Cook. Alternate Delegates, Doctors M. S. Knapp, Dan Knapp and Manwaring.

Director, Dr. F. B. Miner.

The Genesee County Medical Society met for noon luncheon at Hotel Dresden, October 31, 1923. The retiring president, Dr. C. D. Chappell, gave a brief address, reviewing the work of the Society for the year 1922-23, and introduced the new president, Dr. W. Winchester, who outlined the policies for the year 1923-24. The remainder of the meeting was given over to a discussion of the tuberculosis problem. Mr. T. B. Pengally, chairman of the Genesee County Tuberculosis Society, spoke on the future plans of his Society, and what had been accomplished. A preventorium for care of pre-tuberculosis children has already been established, and the building of a modern sanitarium is advocated. It is proposed that the latter be a first-class, modern brick building, large enough to meet the needs of

the city and county. That it have a full time staff of physicians and nurses, and that it be built by the city, with privileges extended to the county. A free discussion followed, with expressions of complete co-operation on part of all Society members.

G. J. CURRY, Secretary.

SHIAWASSEE COUNTY

Dr. Phil H. Marsh of the University of Michigan faculty, addressing members of the Shiawassee County Medical Society, gathered at Memorial hospital, discussed the treatment of diabetes by insulin, the recent discovery of which remedy has aroused widespread interest among laymen.

As has been the case in many other instances, this new remedy has been given undue notoriety by the public press, despite the effort of its discoverers to avoid the same. Dr. Marsh stated that its most important function was its power to combat the coma of diabetes which heretofore has been the beginning of the end.

In no case where it is possible to control the disease by diet is it to be used, but rather, it is held in reserve against the time when it comes, when dieting fails to hold the disease in check.

Another very important use of the remedy, however, is in the case of necessary surgical operations, of any kind, inasmuch as it is well known that diabetics are unsafe to operate upon, no matter how trivial the operation may be, because their wounds do not heal promptly. By the use of insulin, however, these imperative surgical cases may be given insulin permitting healing, and thereby rescued from a perilous situation.

Dr. Marsh is a personal friend of the discoverer, Dr. Banting of Toronto, and is devoting a major part of his time to investigation of the practical application of insulin. Already he has worked out a plan whereby the general practitioner may use the remedy in comatose cases where there is not time to remove the patient to hospital where he or she may be watched continuously and the administration of insulin given by skilled trained nurses.

The meeting, held Tuesday night, was preceded by a delicious chicken dinner served by the staff of nurses, who were given a rousing vote of thanks at the close of the meeting.

Nearly all of the Owosso doctors were present and those from out of town were: Dr. A. L. Bailey, Chesaning; Dr. W. S. Bell, Elsie; Dr. W. B. Fillinger, Ovid; Dr. L. M. Cudworth, Perry; Dr. G. T. Soule, Henderson; Dr. C. E. Crane, Corunna; Dr. W. F. Weinkauff, Corunna; Dr. L. B. Stewart, Chesaning, and Dr. G. B. Wade, president, Laingsburg.

After giving Dr. Marsh a rising vote of thanks and enjoying a season of social chat, the meeting adjourned until December, at which time the annual election of officers will be held.

W. E. WARD, Sec.-Treas.

Book Reviews

PRINCIPLES OF VITAL STATISTICS. By I. S. Falk, Ph. D., Department of Public Health, Yale University. Octavo of 258 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$2.50 net.

Statistics have been hurled at us by hospitals, clinics and health departments. Some of them impart information, others are but a jumble of figures, distorted and of no value. This text sets forth a standard of principles that enable one to secure definite, intelligent information. Therefore it is to be hoped that those who compile statistics will follow these principles and so formulate worth while statistics.

THE EXAMINATION OF PATIENTS. By Nellis B. Foster, M. D., Associate Physician to the New York Hospital; Associate Professor of Medicine at Cornell University, College of Medicine. Octavo of 253 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$3.50 net.

This book succeeds in its purpose to help doctors practice. Our mistakes are mostly due to failure to make thorough examinations. This book outlines a systematic plan that will enable one to conduct an examination that will be of material value in reaching a correct diagnosis. For that reason do we commend it most heartily.

CLINICAL DIAGNOSIS. (Fifth Edition.) By Laboratory Methods. A Working Manual of Clinical Pathology. By James Campbell Todd, M. D., Professor of Clinical Pathology, University of Colorado. Fifth Edition, Enlarged and Reset. Octavo of 762 pages with 325 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company. Cloth, \$6.00 net.

Extended in scope and size this fifth edition is materially enhanced in value. There is a pleasing simplicity and conciseness of text with emphasis laid upon methods and microscopic morphology. It is a text that merits a place in the library of every progressive diagnostician.

GYNECOLOGY. By William P. Graves, M. D., Professor of Gynecology at Harvard Medical School. Third Edition, Thoroughly Revised. Octavo volume of 936 pages with 388 half-tone and pen engravings and 146 microscopic drawings, 103 of the illustrations in colors. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$9.00 net.

This gynecology is recognized as an established authority that is original and meriting hearty recommendation. Part I, deals with Physiology of the Pelvic organs. Over 500 pages are devoted to non-surgical gynecology. Part III, is devoted exclusively to gynecological surgery. A most modern technic prevails and is accompanied by a most lucid text as also splendid illustrations.

The revision brings it up to and includes the newer operative technic that is accepted in plastic work. Pathology is associated with physiology and treatment is correlated.

Graves' Gynecology assumes a pre-eminent place and commands the highest approbation.

A TEXT-BOOK OF ANATOMY AND PHYSIOLOGY. By Jesse F. Williams, M. D., Professor of Physical Education, Teachers College, Columbia University, New York City. 12mo of 523 pages with 369 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$3.00 net.

This text is new and unusual, and is for training schools, colleges and normal students.

For many years Dr. Williams has given courses in personal hygiene and physical training at Teachers College, Columbia University. He presents his subject from a new angle—from the point of view of "health for life's sake"—stressing the importance of mental, social, and moral life, as well as mere physical well-being.

The language is not technical. It is simple, easily understood, and scientifically accurate. Here the nurse will find in uncompromising and applicable form the principles of personal hygiene that she must observe if she is to reach and maintain her highest efficiency. Dr. Williams has clearly pointed the road to a rational and scientific attitude toward the whole question of health preservation and disease prevention.

At the head of each chapter is a summary of its divisions—a great help when using the book in class work.

INTERNATIONAL CLINICS, 33rd Series, Volume 3, 1923. J. B. Lippincott Co., Philadelphia.

Another interesting, instructive volume of this recognized clinical series. Full of live, timely articles.

PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY. By Charles B. Slade, M. D., formerly Chief of Clinic in General Medicine, University and Bellevue Medical School. Third Edition, thoroughly revised. 12mo of 179 pages, illustrated. Philadelphia and London: W. B. Saunders Company, Cloth, \$2.00 net.

A text on physical examinations, technic, principles, etc., that enables the student to comprehend the more comprehensive texts. It is a teaching manual.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, M. D., Professor of Applied Therapeutics in the University of Pennsylvania. Eleventh Edition, Entirely Reset. 12mo of 645 pages, illustrated. W. B. Saunders Company, Philadelphia and London, 1923. Cloth, \$3.50 net.

This is a revised edition of a manual that has been in existence since 1892. It is a text one likes to have at his elbow for ready reference. Its eleventh revision is sufficient tribute to its value and usefulness. It is pleasingly practical.

A PRIMER FOR DIABETIC PATIENTS. Brief Outline of Diabetic Treatment, Including Directions for the Use of Insulin, Sample Menues, Recipes and Food Tables. By Russell M. Wilder, M. D., Mary A. Foley, and Daisy Ellithorpe, Dietetians, The Mayo Clinic. Second Edition, Reset. 12mo of 119 pages. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$1.50 net.

This is a brief outline of the principles underlying the dietary treatment of diabetes. It is for the instruction of the patient. The plan is the one employed at the Mayo Clinic. Every internist will find much that is of assistance to him in the handling of his diabetic patients.

ABT'S PEDIATRICS—By 150 Specialists. Edited by Isaac A. Abt, M. D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. In eight octavo volumes totaling 8,000 pages, 1,500 illustrations and separate Desk Index volume free. Price, cloth, \$10 per volume. W. B. Saunders Company, Philadelphia.

This text is a collection of monographic treatises on all the important subjects related to pediatrics. The authors of these monographs are all recognized authorities who have especially distinguished themselves by work done in the subject they discuss. The senior editor, Dr. Abt, needs no introduction. He merits most hearty appreciation and commendation for having prepared so valuable a system. In fact, it is the greatest text on pediatrics that has appeared since Keating's Encyclopedia on Children, published in 1889. Abt's Pediatrics, therefore, now becomes the leading text of today.

It is extremely practical in character and also of sound scientific, modern theory. It is comprehensive and complete and has recognized authority behind each statement. The more one scrutinizes its contents the more we admire this editorial achievement.

This text is of value to every practitioner, and students and surgeons likewise will find it of material value in their surgical work, for the authors have introduced subjects of surgical interest. This surgery is related to the sick child and points out clearly when surgical treatment is indicated.

We cannot commend this epoch-making text too highly. We cannot but urge that it find a place in the reference library of every physician and hospital. American pediatrics is indebted to Dr. Abt for this master text.

HABITUAL CONSTIPATION—Ismar Boas. Translated by T. L. Stedman, M. D. Price \$2. Funk & Wagnalls Co.

This is a translation of the German author's text, setting forth in plain language the causes, consequences and prevention of constipation.

ALCOHOL AND PROHIBITION IN THEIR RELATION TO CIVILIZATION AND THE ART OF LIVING. By Victor G. Vecki, M. D., San Francisco, Cal. Volume 1, 165 pages, 12mo. Price \$2.00. J. B. Lippincott Company.

Dr. Vecki has given in his book an unprejudiced, comprehensive and clear exposition of the prohibition question, which is today, without doubt, the most vital question with which the country has to deal. The book should prove particularly welcome to the medical profession, many members of which, in their practice, have suffered inconvenience and hardship through the restrictions placed on the sale of alcoholic beverages for medicinal purposes. Besides this, the author has shown the legitimate use as well as the abuse of alcoholic beverages, the desirability of temperance and the abuses in the interpretation of the enforcement of prohibition. Furthermore, and with the backing of facts, he shows what has been accomplished by prohibition so far, and who has been benefited by the drastic enforcement laws. In addition, the standpoint of the medical profession is made clear, a really hygienic manner of living outlined, and the way to the solution of distressing problems indicated.

The first chapter deals with alcoholic beverages in general and from there the author goes on to the discussion of the two sides of the alcohol question. Following this there are chapters on prohibition in relation to the constitution and in relation to personal liberty. Next there is shown what prohibition has so far accomplished in the United States, and who has been benefited by it. Beyond this, the interesting question as to whether prohibition can be enforced or not is gone into, followed by an exceedingly important chapter on prohibition as it affects the medical profession. There is next a chapter in which the author points out the possibilities of mitigating and even eliminating certain evils which have arisen through the drastic enforcement of prohibition laws, followed by one dealing with alcohol in relation to longevity. In the concluding chapter, "Kindness Versus Brutality," the author brings out the fact that the keynote of happiness is temperance in all things, and that temperance in prohibition is as equally desirable as temperance in drinking.

This year marks the semi-centennial of "Public Health Organized" in Michigan. Bearing the fact in mind and that it was back in 1873 that the first State Board of Health was formed, an interesting program has been projected for the Third Annual Conference of Health Officers and Public Health Nurses. The conference will be held in Lansing on December 12 to 14 under the auspices of the Michigan Department of Health and the Michigan Public Health Association. Reminiscences will be the keynote of the meeting Friday morning, December 14, which will be addressed by older and former members of the staff. A good cross section of health improvement in recent years will be afforded at this time.

Prominent among the speakers listed for the occasion are Dr. W. S. Rankin, State Health Commissioner of North Carolina, and Dr. George E. Vincent, president of the Rockefeller Foundation. Dr. Rankin is a former president of the American Public Health Association and is one of the most efficient health officers in the United States. Dr. Vincent is recognized as one of the most brilliant speakers on public health in the country. Anyone who is conversant with the world-wide work which is being conducted by the Rockefeller Foundation, cannot fail to realize the tremendous capacity and vision an organization of this sort demands of its president.

To County Secretaries:

At a recent Council meeting the Secretary was instructed to arrange for a general Conference of the Secretaries of our component County Societies. This Conference to be called at the time of the mid-winter meeting of the Council that is to be held in Detroit in January.

It is the desire of the members of the Council that this Conference be attended by every County Secretary in our State organization. The Conference will concern itself with the discussion of the problems that confront County Societies. Especial attention will be given to a discussion of membership, scientific programs and co-operative activity. The result desired being to institute a state-wide movement of Society activity.

In compliance with these instructions we are planning a program that will enable all County Secretaries to participate in an acceptable plan of work. In order that important details may not be overlooked we are requesting that County Secretaries who have any suggestions to make will proffer these suggestions to us during this present month. Write and tell us what features of this Conference you desire emphasized. What assistance or information will be most beneficial to you in performing your official duties in your county?

Information is also desired as to whether you, Mr. Secretary, will make it a point to attend.

Please reply promptly.

Yours very truly,

F. C. Warnshuis, Secretary-Editor.

To County Secretaries:

The Joint Committee on Public Health Education met at Ann Arbor on October 8th. As you know, the Michigan State Medical Society is represented on this committee by five members. The objective of this committee is to aid in the dissemination of knowledge concerning health matters. The more intelligent people become about the problems of health, both public and private, the less place there will be for quackery and the various non-scientific cults. As Chairman of the Council of our State Society for the coming year, I have been asked by the Committee to communicate with the various component County Societies and ask your hearty co-operation in this work. If this campaign of education is to be put over, the burden of the work must be shouldered by the members of the Michigan State Medical Society. May I ask you to call this to the attention of your Society? Have your members give publicity to this plan. Ask them to have the various clubs or organizations with which they are connected arrange with Dr. W. D. Henderson, of the University of Michigan Extension Division for talks on various health topics. The Bulletin with a list of speakers and subjects can be had by writing to Dr. Henderson. When lectures are scheduled, have your members urge their patients and friends to attend them. Ask your members to respond conscientiously when called upon to give addresses. This is a wonderful opportunity to impart a real message and each one who is called on should make the most of it.

In this connection, I should like also to call your attention to the importance of our new Journal "Hygeia." No more important contribution toward the education of the laity in matters of health has ever been made. Let each County Society and each member do his bit in increasing the circulation of this magazine. Especial effort should be made to have it placed in schools and libraries where it may do the most good.

Your committee is undertaking a great constructive work. The success of this undertaking depends upon the support and co-operation which is given by the members of our Society.

Yours sincerely,

J. B. Jackson, Chairman of the Council

To Physicians of Michigan:

The public press has from time to time within the last few weeks contained stories relative to a decision in the superior court at Grand Rapids that has led physicians to believe that the law requiring the reporting of venereal disease has been set aside. This is not, by any means, true.

The following letter from Honorable Clare Retan, deputy attorney general, sets forth in full the status of this case:

"You desire to be informed as to the present status of the State of Michigan v. Curtis T. Wohlford.

"A complaint was made against the respondent by John P. Sanford, alleging that on the fifteenth day of September, 1921, the respondent, who was a registered physician and surgeon, treated professionally one Harry F. Edinger for a dangerous communicable disease and neglected to report the case to the Department of Health, as provided by Act 272 of the Public Acts of 1919. After a trial of the case before Hon. Leonard A. Verdier, judge of the superior court of Grand Rapids, respondent was found guilty by the jury. His attorney thereafter made a motion in arrest of judgment, assigning 11 different reasons why the respondent should not be sentenced.

"Among the reasons assigned was that Act 272 of the Public Acts of 1919 was unconstitutional in that it violated Section 21 of Article 5 of the Constitution in that the object of the act was not expressed in its title. Judge Verdier held the act unconstitutional for the reason mentioned and discharged the respondent. He did not render an opinion on any of the other reasons assigned by the respondent why he should not be sentenced.

"It is the contention of the People that Judge Verdier is wrong in holding the act unconstitutional for the reason mentioned or for other reasons and the case has been taken to the supreme court on writ of error. The record is now in the hands of the printer and undoubtedly the case will be heard at the January term of the supreme court. We do not believe the act is unconstitutional and are quite confident that the supreme court will reverse the decision of Judge Verdier.

"Respectfully yours,

"(Signed) Clare Retan,

"Deputy Attorney General."

It will be observed that the only question raised in this decision is in regard to the title of the act and that appeal has been taken by the state to the supreme court on a writ of error, and pending the decision of the supreme court, reports are required to be made as heretofore.

I feel very sure that we may rely upon the cordial co-operation of the physicians in this state as we have in the past.

Very truly yours,

R. M. Olin, M. D., Commissioner,
Collaborating Epidemiologist,
U. S. Public Health Service.

IMPROVEMENT OF DIPHTHERIA ANTITOXIN

NOTWITHSTANDING the vast fund of experience and information which has been gained through the many years in which Diphtheria Antitoxin has become established in medical practice, our knowledge is nevertheless steadily increasing and improvements continue to be made in the method of manufacture.

In the early days of serum therapy the standardization of antitoxin was a haphazard proposition, and even the tests utilized for safeguarding its purity left much to be desired. All that is a thing of the past. The standardization of antitoxin is now a definite and accurately controlled procedure, so that its potency, as expressed in antitoxic units, is a certain guide to the physician in determining dosage. Thoroughly dependable tests for insuring the freedom of the product from bacterial contamination or toxic substances of whatever nature have also been developed.

During recent years research effort has largely been directed toward increasing the concentration of antitoxin—getting the therapeutic dose in a smaller bulk and eliminating unnecessary solid material, especially proteins. An antitoxin thus refined has obvious advantages. The smaller quantity is

easier for the physician to inject and less painful to the patient. Even more important, however, is the elimination of unnecessary albuminous substances which in certain patients may cause protein toxemia.

It is now possible, by methods of chemical precipitation, to so concentrate diphtheria antitoxin as to make a given volume many times as potent as the same amount of serum freshly separated from the blood of the treated horse. This is accomplished by precipitating the serum globulin, a constituent of the serum with which the antitoxic element is closely identified. Various methods of carrying out this concentration have been developed, the results of which vary—not only in the degree of the concentration, but also in the physical characteristics of the antitoxin thus obtained. It is very important that the concentration be effected without increasing the viscosity of the globulin to a degree sufficient to delay absorption when administered to the patient. Absorption is an important factor in the clinical response to antitoxin, whether the injections are given subcutaneously or intramuscularly; and delay in absorption is obviously a serious disadvantage.

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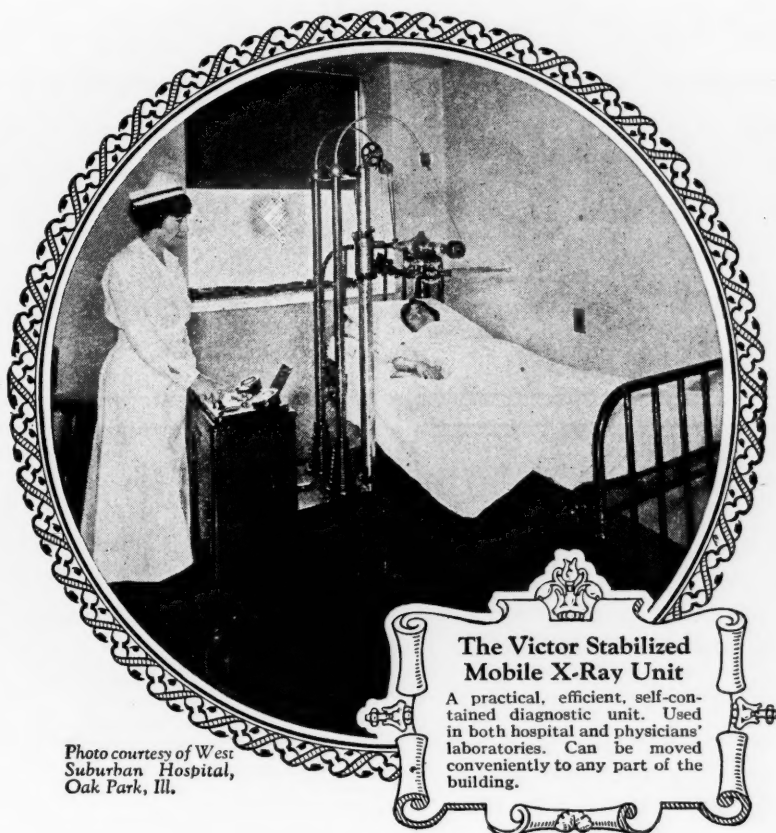


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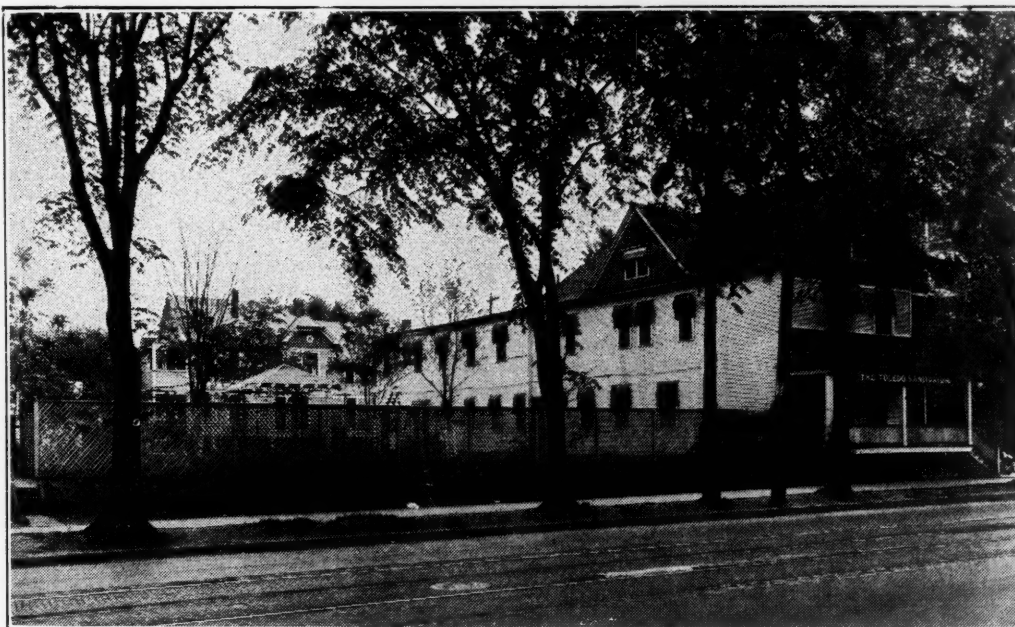
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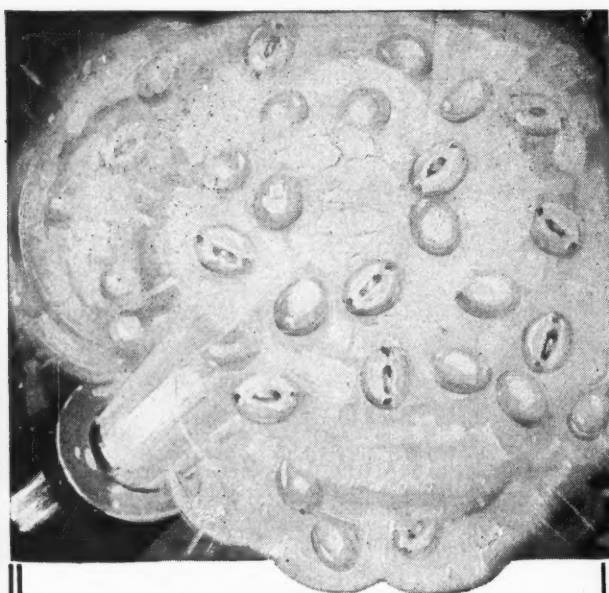


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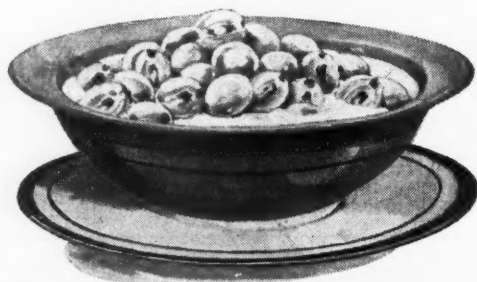
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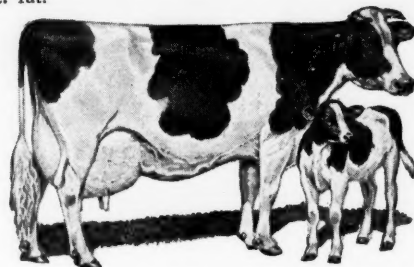
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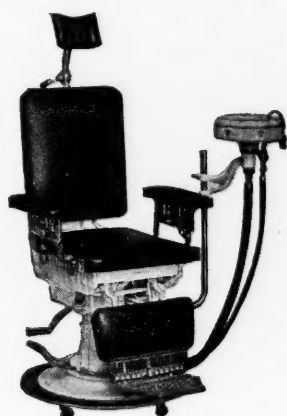
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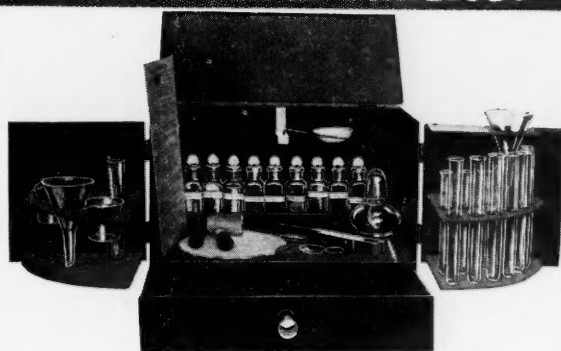
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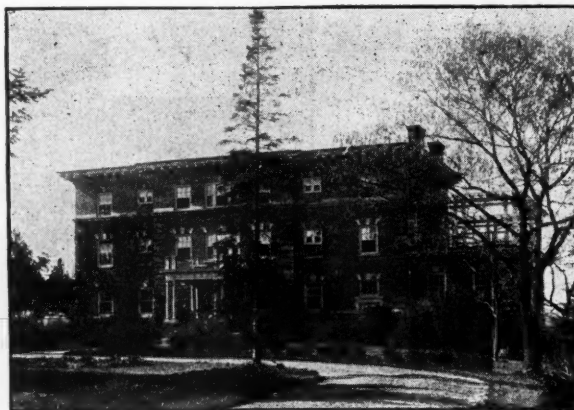
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